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Support needs of Chinese immigrant cancer patients

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Introduction

Developments in oncology psychosocial support programs have been fueled by findings suggesting that behavioral interventions can improve survival and reduce distress and depression^{1–4}. Also important is the growing body of evidence that quality of life is associated with survival among cancer patients^{5–11}. Support services and interventions, however, vary in design, aim, targeted population, and in efficacy and results. While significant progress has been made in understanding and implementing effective support services and survivorship programs, underserved and minority cancer patients are consistently underrepresented in research in this area^{12–14}, and participate less frequently in social support programs¹⁴. Minority women express difficulty in locating culturally appropriate support groups, and Asian American women specifically are less likely to seek professional psychosocial support services than their white peers^{15–17}. Despite this, studies that have included minority populations have demonstrated the usefulness of support groups and interventions in helping minorities cope with cancer and adhere to treatment, although such studies have largely focused on blacks and Hispanics^{18,19}. Because of language barriers, and cultural and social differences in approaches to coping with cancer diagnosis, treatment, post-treatment, and end-of-life care, behavioral interventions tailored toward specific minority communities are necessary¹⁶.

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Chinese immigrants are a large, underserved and understudied ethnic minority group with high rates of a variety of cancers^{20,21}. In California, which has the largest Asian American population of any U.S. state, the incidence rate (per 100,000 population) for liver cancer among Chinese males is 23.3 compared to 6.8 among non-Hispanic white males; and for stomach cancer is 18.3 among Chinese males versus 9.5 for non-Hispanic white males, and 10.2 among Chinese females versus 3.8 for non-Hispanic white females²¹. In 2011, there were 4 million Asians of Chinese descent in the U.S.²². Of the total Chinese population in New York State, nearly 84% (472,896) reside in New York City (NYC), with immigrants comprising 73% of the total²³. Approximately 60% of New York City's Chinese population is limited English proficient²⁴. Linguistic, cultural, and financial barriers, and limited knowledge about cancer and its treatment, and how to navigate complex health care systems, contribute to make this population especially vulnerable to poor cancer outcomes^{14,25–27}. Asians are at lower risk for some cancers, but have higher rates of other cancers, including liver, gastric, nasopharyngeal, and cervical cancers²¹, and are the only major population group in the U.S. that has a higher annual number of deaths from cancer than from heart disease²⁷. Five-year breast cancer survival among immigrant Chinese (0.74, 95% CI=0.72–0.77) is worse than among US-born (0.79, 95% CI=0.76–0.81), with an adjusted hazards ratio of 1.22 (95% CI=1.06–1.40)²⁰.

There are a small number of studies on support groups targeting Chinese cancer patients. In a study in Shanghai, almost 95% of support group participants reported positive changes in behavioral, cognitive, social, confidence and hope indicators, and acceptance and delivery of help, after attending support groups²⁸. In Chinese breast cancer patients in NYC and San Francisco, a Chinese language support group was identified as a meaningful spiritual resource for coping with cancer²⁹. However, of note, in a qualitative study of Chinese women with breast cancer, women without visible physical changes would try to keep their illness a secret to avoid stigmatization rather than seek peer group support²⁵. For Chinese patients who may be concerned with stigma, virtual, including Internet-based^{12,30–35} and telephone^{36,37}, support groups and interventions may be of particular utility. Several studies in other populations have found that Internet support groups and programs afford convenient access and anonymity³³, reduce participants' scores on depression, perceived-stress, mood disturbance, and cancer-related trauma measures, and provide outlets to freely share experiences and gain access to other cancer patients^{31,34,35}. Randomized studies investigating the impact of online groups are few^{34,38,39}, as are studies inclusive of minorities^{33,38}. Im et al. found that among 546 Internet cancer support groups, only 24 (4.4%) were intended for and used by ethnic minorities³¹. Only one study examined the use of Internet support groups for English-speaking Asian American patients, the majority of whom, 44%, were Chinese³². In this qualitative study, Asian Americans sought help from Internet support groups to supplement family support and mainly to seek the most up-to-date information on cancer and its treatment³².

To enable better psychosocial, informational, and practical support of Chinese patients with cancer, this study was conducted to identify the specific support needs of Chinese immigrant cancer patients, including preferences for the format of potential interventions. Findings can be utilized to develop culturally tailored support programs.

Methods

The “Cancer Portal Project” at Memorial Sloan-Kettering Cancer Center’s (MSKCC) Center for Immigrant Health and Cancer Disparities is an individualized patient navigation program that assists predominately underserved and minority cancer patients with obtaining social and economic assistance, including financial support, transportation assistance, food support and nutritional information, legal advising, assistance with insurance, and referrals to cancer support and informational services^{40,41}. The “Portal Project” is a service program and enrolls patients at ten New York City hospital-based cancer clinics. “Portal” received exemption from the MSKCC Institutional Review Board. This needs assessment was conducted as part of the “Portal Project”.

The needs assessment consisted of 64 questions that were added to the existing Portal Intake Form about needs and preferences for potential Chinese-language support and survivorship services. The Portal Intake Form is over 35 pages, has 234 questions, and includes several validated psychosocial and quality of life measures. The Intake Form was developed through a pilot study and was then further adapted in an iterative process to best measure the main outcomes of the project, which include cancer treatment adherence and quality of life.

For this study, a consecutive sample of Mandarin-speaking Portal patients was queried by bilingual program staff and asked to complete the additional needs assessment questions. Mandarin-speaking Portal participants who were in active contact with program staff within the 6 months prior to the needs assessment were included. Program staff administered the additional questions over the phone, or in person if more convenient for the patient. Participants had already completed the Portal Intake Form when initially enrolled in the “Portal Project”; this form included questions about sociodemographics, preferred language, English language ability, immigration history, and cancer diagnosis and treatment. The additional 64 needs assessment questions on Chinese-language support and survivorship services asked participants to rate their needs for support and survivorship services, including information about navigating the health care system; how to make treatment decisions; information on treatment options; information on clinical cancer care and treatment; information about general health care; how to communicate with their doctors; information on accessing financial and social assistance; forums for social networking, discussion, and support; and sessions on nutrition, herbs and supplements, acupuncture, acupressure, exercise, meditation, and music therapy. Participants were also asked about their Internet usage, and their preferences for the format (i.e. in-person, telephone, or online, individual or group) of potential programs. Questions were developed based on results from prior qualitative work exploring the needs of Chinese immigrant cancer patients⁴².

Descriptive analysis was performed to examine sociodemographic characteristics, participant interest in potential topics for support programs, Internet usage, and preferences for the format of potential programs. Chi-squares and correlation analyses were conducted to assess for demographic or medical variable predictors of preference in format of programs.

In an effort to determine if there were any patterns in the services and programs in which the patients were interested, these items were analyzed using exploratory principal components

factor analysis. Eigenvalues greater than 1.0 were used to determine the number of factors and the principal components were given an oblique rotation. Assessment of factor model fit was based on the communalities of the variables comprising the factor analysis. Communalities close to 1.0 indicate the quality of the fit. A General Linear Model approach was then used to analyze the patient demographic and medical variables that might predict interest in the programs and services comprising each factor.

Results

Ninety-six patients were approached for potential participation between May and July of 2011. Fifty-nine (61%) were successfully reached and agreed to participate. Twenty-five could not be reached due to wrong phone number (14), did not answer the phone after multiple attempts (9), or had returned to their home country (2); 4 refused; 3 had died; 3 were too sick to answer the questions; 2 were ineligible (did not have cancer or did not know he/she had cancer). Of the 59 participants, 63% were female. The majority of participants were born in China (including Taiwan and Hong Kong) (88%); the remaining participants born in Malaysia. Ninety-seven percent preferred to speak Mandarin, Cantonese, or Fujianese in the healthcare setting. Thirty-nine percent of participants reported speaking English “not at all” and 58% “not well.” Forty-nine percent had less than a high school education. Seven percent was uninsured and 48% had Medicaid for Emergency Services. (Table 1)

The most common cancer diagnoses among participants were breast (41%), gastrointestinal (25%), and lung (12%). Forty-one percent of participants did not know their cancer stage and 27% had been diagnosed with stage III or IV cancer. Fifty-three percent were in active treatment at the time of interview and 31% had been diagnosed less than a year prior to the interview. (Table 1)

When asked about general interest in psychosocial, informational, and practical support programs and services, 53% of participants were “very interested,” 27% were “maybe interested,” and 17% were “not interested.” Eighty-one percent of women and 77% of men were either “very” or “maybe” interested in potential services. The most common reasons for not being interested in such services were “no time” and “no need”. Potential programs and interventions in which more participants were “very interested” were those that would provide information about obtaining financial assistance (79%), information about finding social assistance (74%), information on available treatment options (67%), help coping with the burden of illness on the family (65%), information about general healthcare (63%), information on clinical cancer care and treatment (63%), information on physical fitness and exercise (63%), information on how to improve communication with physicians (62%), information on how to navigate the health care system (59%), information on nutritional guidance (59%) and herbs and supplements (55%) for disease prevention, information on how to access interpreter services (57%), information on how to make treatment decisions (53%), and forums for social networking/discussion/support (52%), and how to cope with the fear (51%) and stress (49%) related to illness. Relatively fewer participants were interested in topics such as acupuncture (42%), mind/body techniques like meditation (37%), and how to find other doctors (36%). (Table 2)

Participants were more interested in psychosocial, informational, and practical support interventions with a group format (31%) than in one-on-one sessions (21%). The majority of participants had no preference about whether or not other patients in a group format had the same diagnosis, were of the same age group, or were of the same gender (34%, 39%, 46%, respectively). Thirty-six percent said they would prefer to begin an intervention at the beginning of their cancer treatment regimen. Most participants preferred that potential programs be offered in-person (52%), although 16% preferred telephone, 2% online, as well as a combination of formats (in-person/online 2%, in-person/phone 10%, in-person/phone/on-line 5%). Preference for in-person or phone programs was not related to any demographic or medical variables. Only a preference for a combination of formats was significantly associated with English speaking ability. Those who spoke English “not at all” were more likely to prefer combination formats compared to those who spoke English “well” (67% vs. 11%, $P=.04$). Fifty-eight percent reported having a computer at home and 54% had the Internet available; 31% described using the Internet ‘frequently’ or ‘occasionally’. Thirty-six percent used Chinese to access the Internet. Twenty-nine percent were interested in some form of phone or online buddy program or online chat or blog program. (Table 2)

Results of the exploratory principal components factor analysis, to determine if there were any patterns in the services and programs in which the patients were interested, can be found in Table 3. The factors are described in order of priority of the factors, where the first factor accounts for most of the variance explained and the last factor accounts for the least variance.

The first factor (Social/Financial/Treatment and Care Issues) contains items regarding information about social and financial assistance, treatment decisions and options, navigating the health care system, and interactions with physicians. There is also one item on this factor concerned with coping with the burden that the cancer places on the family. The fact that this item appears on this factor suggests the possibility that much of patients’ concerns about burdening the family are concerned with the wide range of practical and treatment related issues confronting patients’ families. The second factor (Nutrition and Exercise/Networking/General Health Care) involves items concerning nutritional guidance, physical activity/exercise, and general health care. It is interesting that social networking possibilities are also mentioned on this factor. The fact that this item appears on this factor suggests that patients might be interested in nutrition and exercise programs in company with other cancer patients. The third factor (Coping with Fear and Stress) involves items about the fear and stresses occasioned by cancer and a suggestion that programs designed to cope with these issues would be helpful. The appearance of the item regarding the use of music therapy suggests that the patients may be aware of evidence indicating that music therapy can reduce stress and anxiety in cancer patients⁴³. The fourth factor (Herbs and Dietary Supplements) involves two items concerning herbal treatment and dietary supplements. The fifth factor (Acupuncture and Acupressure) contains items about acupressure and acupuncture. The average communality for the 23 items included in the five factors was 0.74 indicating that the factor structure was successful in accounting for the common variance among the items. MacCallum et al. found that sample size did not matter as long as the average communality was at least 0.70⁴⁴.

We next focused on demographic and medical variables that might identify the characteristics of patients who were interested in the programs and services comprising each factor. We used the General Linear Model for these results. The overall set of predictors for the first factor (Social/Financial/Treatment and Care Issues) was significant ($F(7,44) = 4.58$; $p = 0.0006$; R-Square = 0.42). Interest in this factor was significantly ($t(44) = 2.87$; $p = 0.0064$) associated with increases in the length of time the patient had health insurance. Increasing levels of English proficiency were marginally ($t(44) = 2.93$; $p = 0.0941$) associated with increased interest in the programs comprising this factor. Patients who are married or living with another person were marginally ($t(44) = 1.70$; $p = 0.0969$) less likely to express interest in this factor's programs (Mean = 22.90) compared to those who are not married or living with a partner (Mean = 25.27). Finally, type of health insurance was a significant predictor ($t(44) = 3.50$; $p = 0.0145$). Patients having no insurance were significantly ($t(44) = 2.38$; $p = 0.0216$) less likely to express interest in these programs (Mean = 17.50) compared to those with Emergency Medicaid (Mean = 26.60). Patients having Emergency Medicaid were significantly ($t(44) = 2.58$; $p = 0.0134$) more likely to be interested in factor 1 programs than were patients on Medicaid only (Mean = 21.73). Patients having insurance other than government sponsored programs (8% of the total sample) were significantly ($t(44) = 2.55$; $p = 0.0143$) more likely to express interest in factor 1 programs (Mean = 30.07) than were Medicaid only patients (Mean = 21.73) and also significantly ($t(44) = 2.49$; $p = 0.0165$) more likely to express interest than patients with no insurance (Mean = 17.50).

In the model for the Nutrition and Exercise/Networking/General Health Care factor, only a single predictor was involved and it (insurance type) was only marginally ($F(4,50) = 2.30$; $p = 0.0714$; R-Square = 0.16) significant. Patients with Emergency Medicaid were significantly ($t(50) = 2.38$; $p = 0.0211$) more likely to express interest in these programs (Mean = 12.74) compared to patients with HMO Medicaid (Mean = 10.27). Patients having other insurance were also significantly ($t(50) = -2.33$; $p = 0.0240$) more likely to express interest (Mean = 14.67) compared to those with HMO-Medicaid (Mean = 10.27).

On the third factor (Coping with Fear and Stress), patient diagnosis was a marginally significant ($F(3,49) = 2.79$; $p = 0.0500$; R-Square = 0.15) predictor of fear and stress. Patients diagnosed with breast cancer scored significantly ($t(49) = -2.15$; $p = 0.0366$) higher on this factor (Mean = 10.14) compared to patients diagnosed with gastrointestinal cancer (Mean = 8.08). This was also true ($t(49) = 2.04$; $p = 0.0471$) for breast cancer patients compared to those with lung cancer (Mean = 7.71) and those with other types of cancer (Mean = 7.91). The t-test for the last comparison was $t(49) = 2.20$; $p = 0.0325$.

The model for the fourth factor (Herbs and Dietary Supplements) was significant ($F(2,49) = 5.32$; $p = 0.0081$; R-Square = 0.17). English proficiency was significantly ($t(49) = 3.15$; $p = 0.0028$) related to this factor. Increasing proficiency was associated with an increase in interest in herbal treatment and dietary supplements. Because a large number of the respondents were not aware of the stage of their cancer, we examined knowledge of cancer stage as a potential predictor. Knowledge of cancer stage was a marginally significant ($t(49) = 1.97$; $p = 0.0543$) predictor. Those with knowledge of cancer stage expressed marginally

greater interest (Mean = 5.10) in herbal treatments and dietary supplements compared to those without such knowledge (Mean = 4.16).

The model for the fifth factor (Acupuncture and Acupressure) was significant ($F(3,49) = 3.52$; $p = 0.0216$; R-Square = 0.17). Married or partnered patients were significantly ($t(49) = 2.02$; $p = 0.0493$) less likely to express interest (Mean = 3.88) compared to those not married or partnered (Mean = 4.77). Patient education was marginally significant ($t(49) = -1.91$; $p = 0.0619$) as a predictor. As patient education increased, interest decreased. English proficiency was also marginally significant ($t(49) = 1.90$; $p = 0.0630$). Greater proficiency was associated with more interest.

Discussion

In this study, 80% of participants expressed interest in programs tailored for Chinese cancer patients, demonstrating a significant need for more culturally and linguistically appropriate interventions to be developed and implemented for this vulnerable and understudied population. Notably, the most frequently preferred topics for potential services (i.e. information about financial and social assistance, and general healthcare) were information-based. Informational support for cancer patients is of increasing research interest, and our current findings support our previous qualitative work⁴² and the work by other authors on the importance of ample, clear, and consistent information for patients^{42,45,46}. In a review of cancer peer support programs, for example, Campbell et al. found that men in prostate cancer support groups tended to value information they received more than emotional support⁴⁷. Helgeson et al. also found that information or education-based interventions resulted in better short and long-term adjustments than peer discussion groups focused on emotional support for a group of women with breast cancer (although peer facilitators did not interact with participants in the way a therapist would, i.e. group therapy was not conducted)⁴⁸. Further, culture in particular may influence the type of support desired. The results of the current study support work by other authors describing higher prioritization of needs related to information about their disease and treatment among Chinese cancer patients compared to Caucasian patients who prioritized psychological and physical support⁴⁹. This study contributes to the literature by describing the specific support needs and preferences among Chinese cancer patients, and through the factor analysis results, provides data on how different types of services and programs might best be grouped and delivered to optimally meet the needs of this unique population.

Also important are what participants' preferences for topics reveal about the needs of this particular cancer patient population. The negative impact of cancer on patients' ability to work and thus financial status has been documented. More accessible and targeted employment and financial resources are clearly still needed⁵⁰⁻⁵². The high levels of interest among these participants for information about financial and social assistance programs may suggest significant concerns about the economic costs of cancer to the individual as well as limited knowledge about available resources and limited ability to access resources due to language and/or cultural barriers. Additionally, our findings demonstrated a frequently reported desire for help in coping with the burden of illness on the family. This was further supported by the factor analysis results, suggesting a link between financial/practical/

treatment-related issues and burden on the family. These findings underscore the importance of addressing Chinese patients' anxiety about this issue⁵³, the central role of the family, and the need to be inclusive of family members in developing targeted programs and interventions for this population.

Most participants voiced a preference for in-person programs. However, a number of participants described a preference for phone (16%), online (2%), or in-person programs combined with phone and/or on-line formats (17%). Given the stigma associated with cancer in this population²⁵, the feasibility of Chinese language virtual modalities for support services and interventions should be explored. The fact that those who spoke English "not at all" preferred a combination of formats over those who had greater English proficiency also warrants further assessment. Perhaps those most linguistically isolated are more stressed about accessing any support at all, and were more willing to state a desire to participate in multiple formats of potential programs.

The factor analysis results describing the impact of health insurance on the first factor (Social/Financial/Treatment and Care Issues) warrants attention; uninsured patients are likely to be the most vulnerable, but appeared to be less likely to express interest in programs addressing these issues compared to insured patients. Perhaps this is due to a belief that they would not be eligible for such programs. Interventions should be developed with tailored outreach to this group. Other results of the factor analysis, including higher scores on the third factor (Coping with Fear and Stress) among breast cancer patients compared to those with other types of cancer suggest further research and programs are needed to address the specific needs of Chinese women with breast cancer. Interestingly, greater English proficiency was associated with increased interest in both the factor on Herbs and Dietary Supplements and the factor on Acupuncture and Acupressure. The use of these modalities may play a significant role in the cancer care of Chinese immigrants of diverse backgrounds and levels of acculturation, and should be considered in support programs.

This study has limitations. Because participants were recruited from a group of patients already enrolled in a program designed to help them navigate the healthcare system and locate support services, they may have been more likely to report interest in support and survivorship services. Patients who were sicker, or were less familiar with our program staff, or less comfortable with the health care system, may have refused to participate. Or those in less stable circumstances may have been impossible to reach because of changes in phone numbers. These patients may have had greater support needs. Conversely, those with robust support systems may have been less interested in participating. The small sample size is also a limitation; larger studies are needed. However, study results provide important insight into immigrant Chinese cancer patients' needs and preferences for specific types of information and support and the format/modality of that support. Findings provide a foundation for future research and the development of culturally and linguistically targeted support programs and interventions for this underserved population.

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Table 1

Patient demographics and cancer diagnosis, n(%)

	n = 59
Gender	
Male	22 (37)
Female	37 (63)
Country of birth *	
China	52 (88)
Malaysia	7 (12)
Time in the U.S.	
Less than 1 year	1 (2)
1 – 2 years	3 (5)
3 – 5 years	8 (14)
6 – 9 years	14 (24)
10 – 15 years	16 (27)
15 years	17 (29)
Language preferred w/provider	
Mandarin	27 (46)
Cantonese	16 (27)
Fujianese	3 (5)
Korean	1 (2)
Mandarin/Cantonese	6 (10)
Mandarin/Fujianese	5 (8)
English/Spanish/Cantonese	1 (2)
English speaking ability	
Not at all	22 (39)
Not well	33 (58)
Well	2 (4)
<i>Missing</i>	2
Education	
None	1 (2)
5th Grade	8 (14)
6th to 11th Grade	20 (34)
High School Grad	18 (31)
Some College/Post-College	11 (19)
Don't know	1 (2)
Marital status	
Single	6 (11)
Partnered	1 (2)
Married	31 (54)
Separated	3 (5)
Widowed	4 (7)

	n = 59
Divorced	11 (19)
Don't know	1 (2)
<i>Missing</i>	<i>2</i>
Insurance status	
Uninsured	4 (7)
Emergency Medicaid	28 (48)
Medicaid	10 (17)
HMO-Medicaid	14 (24)
Medicaid w/Medicare	1 (2)
Other	1 (2)
<i>Missing</i>	<i>1</i>
Cancer diagnosis	
Breast	24 (41)
Gastrointestinal	15 (25)
Lung	7 (12)
Gynecological	3(5)
Brain	2 (3)
Head & Neck	4 (7)
Other	4 (7)
Knowledge of Stage	
Yes	24(44)
No	31(56)
<i>Missing</i>	<i>4</i>
Currently receiving treatment	
Yes	30 (53)
No	27 (47)
<i>Missing</i>	<i>2</i>

* Includes Hong Kong and Taiwan

Table 2

Patient Interests and preferences for cancer support programs and interventions, n(%)

	(n=59)
Interested in services/programs	
Very interested	31 (53)
Maybe interested	16 (27)
Not at all interested	10 (17)
Don't know	2 (3)
Information on available financial assistance	
Very interested	46 (79)
Maybe interested	3 (5)
Not at all interested	7 (12)
Don't know	0 (0)
Refused	2 (3)
<i>Missing</i>	<i>1</i>
Information on available social assistance	
Very interested	43 (74)
Maybe interested	7 (12)
Not at all interested	6 (10)
Don't know	0 (0)
Refused	2 (3)
<i>Missing</i>	<i>1</i>
Information on available treatment options	
Very interested	39 (67)
Maybe interested	9 (16)
Not at all interested	7 (12)
Don't know	1 (2)
Refused	2 (3)
<i>Missing</i>	<i>1</i>
Forum for how to cope w/burden of illness on family	
Very interested	37 (65)
Maybe interested	4 (7)
Not at all interested	14 (25)
Don't know	0 (0)
Refused	2 (4)
<i>Missing</i>	<i>2</i>
Information on general healthcare	
Very interested	37 (63)
Maybe interested	11 (19)
Not at all interested	9 (15)
Don't know	0 (0)
Refused	2 (3)

	(n=59)
Information on clinical cancer care and treatment	
Very interested	37 (63)
Maybe interested	12 (20)
Not at all interested	8 (14)
Don't know	0 (0)
Refused	2 (3)
Information on physical fitness and exercise	
Very interested	36 (63)
Maybe interested	8 (14)
Not at all interested	10 (18)
Don't know	1 (2)
Refused	2 (4)
<i>Missing</i>	2
Information on how to improve communication with physicians	
Very interested	36 (62)
Maybe interested	5 (9)
Not at all interested	14 (24)
Don't know	1 (2)
Refused	2 (3)
<i>Missing</i>	1
Information on how to navigate the health care system	
Very interested	34 (59)
Maybe interested	9 (16)
Not at all interested	12 (21)
Don't know	1 (2)
Refused	2 (3)
<i>Missing</i>	1
Information on nutritional guidance for disease prevention	
Very interested	34 (59)
Maybe interested	9 (16)
Not at all interested	13 (22)
Refused	2 (3)
<i>Missing</i>	1
Information on how to access interpreter services	
Very interested	33 (57)
Maybe interested	6 (10)
Not at all interested	15 (26)
Don't know	2 (3)
Refused	2 (3)
<i>Missing</i>	1
Information on herbs and supplements for disease	

	(n=59)
prevention	
Very interested	32 (55)
Maybe interested	6 (10)
Not at all interested	15 (26)
Don't know	3 (5)
Refused	2 (3)
<i>Missing</i>	<i>1</i>
Information on how to make treatment decisions	
Very interested	31 (53)
Maybe interested	11 (19)
Not at all interested	12 (21)
Don't know	2 (3)
Refused	2 (3)
<i>Missing</i>	<i>1</i>
Forum for social networking, discussion, and support	
Very interested	30 (52)
Maybe interested	8 (14)
Not at all interested	17 (29)
Don't know	1 (2)
Refused	2 (3)
<i>Missing</i>	<i>1</i>
Support on how to cope w/fear related to illness	
Very interested	29 (51)
Maybe interested	5 (9)
Not at all interested	20 (35)
Don't know	1 (2)
Refused	2 (4)
<i>Missing</i>	<i>2</i>
Forum for how to cope w/stress of illness	
Very interested	28 (49)
Maybe interested	8 (14)
Not at all interested	19 (33)
Don't know	0 (0)
Refused	2 (4)
<i>Missing</i>	<i>2</i>
Information on how to find other doctors	
Very interested	21 (36)
Maybe interested	7 (12)
Not at all interested	26 (45)
Don't know	2 (3)
Refused	2 (3)
<i>Missing</i>	<i>1</i>

	(n=59)
Preference for groups vs individual programs	
Individual, one-on-one	12 (21)
Group	18 (31)
Both one-on-one and group	10 (17)
No preference or don't know	12 (21)
Refused	6 (10)
<i>Missing</i>	<i>1</i>
If groups, people w/same or mixed diagnoses?	
Same	8 (14)
Mixed	12 (20)
No preference or don't know	20 (34)
N/A (prefers 1-on-1)	12 (20)
Refused	7 (12)
Format preference for groups	
In-person	30 (52)
Phone	9 (16)
Online	1 (2)
In-person/online	1 (2)
In-person/phone	6 (10)
In-person/phone/on-line	3 (5)
Don't know	0 (0)
Refused	8 (14)
<i>Missing</i>	<i>1</i>
Computer at home	
Yes	34 (58)
No	20 (34)
Don't know	0 (0)
Refused	5 (9)
If computer at home, Internet available	
Yes	32 (54)
No	2 (3)
N/A (no computer at home)	20 (34)
Refused	5 (8)
Frequency of Internet use (home, work, cafes, etc.)	
Frequently	10 (17)
Occasionally	8 (14)
Rarely	5 (8)
Never	29 (49)
Don't know	0 (0)
N/A (no computer at home)	3 (5)
Refused	4 (7)
Language used when accessing Internet	

	(n=59)
Chinese	21 (36)
Chinese and English	1 (2)
N/A (never uses internet)	33 (56)
Refused	4 (7)
Interest in online blog, chat, buddy, or phone buddy program	
Phone buddy program	8 (14)
Phone or online buddy program	4 (7)
Online chat program	2 (3)
Online chat or phone buddy program	1 (2)
Online chat, blog, or buddy program	2 (3)
Not interested	24 (41)
Don't know	6 (10)
N/A	4 (7)
Refused	7 (12)
<i>Missing</i>	<i>1</i>

Table 3

Results of exploratory principal components factor analysis

Factor 1 – Social/Financial/Treatment and Care Issues	
Information/Sessions on:	Rank Order of Factor Loadings:
Social Assistance	0.94
Financial Assistance	0.92
Treatment Options	0.78
How to Make Treatment Decisions	0.70
Clinical Cancer Care and Treatment	0.64
Coping with the Burden of Illness on the Family	0.61
How to Navigate the Hospital/Health Care System	0.56
How to Find Other Doctors	0.50
How to Improve Communication with Your Physicians	0.48
How to Access Interpreter Services	0.44

Factor 2 – Nutrition and Exercise/Networking/General Health Care	
Information/Sessions on:	Rank Order of Factor Loadings:
Nutritional Guidance When Undergoing Treatment	0.81
Nutritional Guidance for Disease Prevention	0.76
Sessions Incorporating Physical Activity/Exercise to Strengthen the Body and Reduce Fatigue	0.59
Forum for Social Networking, Discussion, and/or Emotional Support	0.45
Information on General Health Care	0.40

Factor 3 – Coping with Fear and Stress	
Information/Sessions on:	Rank Order of Factor Loadings:
Support on How to Cope with the Fear Related to the Illness	0.74
Forum for Social Networking, Discussion, and/or Emotional Support	0.73
Forum on How to Cope With the Stress of Illness	0.70
Sessions Incorporating Music Therapy	0.63

Factor 4 – Herbs and Dietary Supplements	
Information/Sessions on:	Rank Order of Factor Loadings:
Herbs and Dietary Supplements when Undergoing Treatment	0.86
Herbs and Dietary Supplements for Disease Prevention	0.84

Factor 5 – Acupuncture and Acupressure	
Sessions Incorporating:	Rank Order of Factor Loadings:
Acupuncture to Relieve Symptoms Including Pain And Stress	0.81
Acupressure to Relieve Symptoms Including Pain And Stress	0.75