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13. ABSTRACT (Maximum 200) Alternative/complementary therapies have become popular among cancer patients. Although about one quarter of breast cancer patients in the United States use alternative therapies, ethnic differences in prevalence of use and the distribution by type have not been examined. Our goal was to determine the types of conventional and unconventional therapies used by women with breast cancer diagnosed between 1990 and 1992 in San Francisco Bay Area among Hispanics, Whites, Blacks and Chinese-Americans and to assess factors influencing their choices of therapies. The ultimate goal is to improve breast cancer outcomes. A total of 377 subjects completed a 30 minute telephone interview with a very high participation among Whites, Blacks and Hispanics. Each ethnic group had their own preferred therapies: Blacks used spiritual healing most often (43%); Chinese women used diet and herbal remedies (30%); Whites used diet (30 %) and psychological methods (40%), while Hispanics preferred Tomaxifen therapy (43 %). All in all, two thirds (64%) of our subjects used at least one type of alternative treatment and about half of them used two types after breast cancer diagnosis. Women did not use alternative therapies for very long, mostly less than 6 months. Factors influencing the choices of alternative therapies vary tremendously for different types of therapies and among the ethnic groups. Age, education, insurance status, having a mother with breast cancer, support group attendance or counseling, and late stage at diagnosis were associated with choices of alternative therapies.			
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Abstract presented at the 21st Meeting of The International Association for Breast Cancer Research	

CHOICES OF BREAST CANCER THERAPIES AMONG FOUR ETHNIC GROUPS

Marion M. Lee, Ph.D., Margaret R. Wrensch, Ph.D., Shelley Adler, Ph.D.

INTRODUCTION:

Breast cancer is a major public health problem in the United States accounting for nearly 30% of all cancers and 18% of all cancer deaths occurring in women (1). Breast cancer incidence and mortality rates vary among racial and ethnic groups. White women are more likely to develop breast cancer than Black, Hispanic and Chinese women. However, Black women are more likely to die of breast cancer than other ethnic groups (2).

When a woman is diagnosed with breast cancer, she is confronted with a wide variety of treatment choices including the conventional treatments as well as some non-conventional therapies. These "non-conventional" therapies are also referred to as complementary or alternative therapies (3).

In the United States, interest in alternative treatments for cancer is growing steadily (4-8). A few studies have examined the extent of use among breast cancer patients(4, 6), but none have investigated the alternative treatment choices among various ethnic populations.

The goal of this study was to (a) determine the types, length and frequency of use of conventional and unconventional therapies chosen by women in San Francisco who were diagnosed with breast cancer between 1990 and 1992, and (b) to explore factors such as ethnicity, nativity, income, education, religion, health insurance, family history of breast cancer, social support, etc., associated with using different types of therapies.

METHODS:

The subjects in our study were newly diagnosed with primary breast cancer (carcinoma in situ or invasive) between January, 1990 and December, 1992. They were identified through the Northern California Cancer Center Tumor Registry as non-Hispanic Whites, Blacks, Chinese and Hispanics, living in San Francisco at time of diagnosis and were under 70 years old at diagnosis.

Our breast cancer patients were contacted by phone and answered a 30 minute phone interview in the language of their choice, Chinese, Spanish or English. The questionnaire included questions on demographics, cultural variables such as languages use, birthplace and acculturation, the type, frequency and length of use of various therapies, and other factors such as social support, attitude towards life, smoking, alcohol consumption and exercise habits, pregnancy history, health and medical condition. In addition, information on clinical factors, such as stage of cancer and node involvement data were abstracted from the medical records.

The collected information were edited and key entered twice into a personal computer, all inconsistencies were checked and corrected through an edit-check program. Data were then subjected to descriptive statistical analysis. Odds ratios were estimated by logistic regression

models to determine the relative importance of factors influencing alternative cancer therapy practices.

RESULTS:

Table 1 shows the contact process for enlisting participants. From a total of 619 eligible subjects, 14 medical attending physicians refused for us to contact their patients, thus among the 605 letters sent, 170 (28%) were unavailable for interviews because they had died, moved, couldn't be traced or on vacation for prolong periods. There were 46 refusals and 12 subjects were not able to participate because they either claimed not having had breast cancer or had mental or language problems. Thus, a total of 377 women (89%) participated in our study. As shown in this table, Chinese subjects were more likely to refuse than other ethnic groups. We have done our best. We called physicians and enlisted their help and our interviewers have tried every possible avenues to be friendly and forceful. We just have to accept that some women do not want to be bothered. The other investigators from the Northern California Cancer Center have also experienced similar higher refusals among Chinese American subjects than other ethnic populations.

The characteristics of our study population are shown in Table 2. Their mean age is about 56 years old. White and Black subjects were more educated than Chinese and Hispanic women; Chinese and Whites women had higher income than others. At least 65% of our subjects had private insurance. Far fewer Hispanics women lived alone compared to other ethnic groups. More Whites were never married than among other ethnic groups. The majority of our participants had Christian faith except Chinese women. Two thirds to three quarters of our subjects were diagnosed with early stage of breast cancer and about 13% to 22% of them had a family history of breast cancer.

Our subjects were asked how they perceived their health before and after breast cancer diagnosis. Table 3 shows cultural differences among the four ethnic groups for this perception. Chinese women were less likely to change their perception about health. However, more than one third of Black and Hispanic women perceived that their health changed to fair or poor after cancer diagnosis.

Table 4 indicates the types of breast cancer therapies that patients used. For conventional treatments, fewer White and Chinese women used chemotherapy compared to the other two groups. For alternative therapies, each ethnic population had their own particular preferred therapies. For example, Blacks used spiritual healing most often. Chinese women used herbal remedies, more Whites used psychological methods, while more Hispanics used Tomaxifen.

The average time in months women used different therapies is shown in Table 5. Women did not use most therapies for very long, the majority were used between 3 to 6 months. Exceptions were spiritual healing which was practiced on average for more than 2 years among non-Chinese users.

We reclassified various types of alternative therapies into the following four groups: Diet therapies consist of macrobiotic diet, megavitamin, other dietary regimen like low fat diet, homeopathy, and herbal remedies. Mind therapies included psychological methods, meditation,

imagery, faith and spiritual healing. Body therapies consisted of massage, accupressure and acupuncture. Tamoxifen therapy was the major hormonal therapy.

Table 6 shows that Blacks were more likely to use mind therapies (43%). Chinese used dietary therapies (30%); more than one thirds of Hispanics used all three types except body therapy (17%). We found that Hispanics used hormone therapy more often than other ethnic groups. White women, about 40% chose diet and mind therapies and only 20% chose body or hormone therapies. All in all, two thirds of our subjects, 64%, used at least one type of alternative therapy and about half of them used two types of therapies after breast cancer diagnosis.

The use of conventional treatments also varied among ethnic groups (Table 7). Slightly more White women had biopsy than other ethnic women. Chinese were less likely to have a lumpectomy and modified mastectomy and more likely to have radical mastectomy than other ethnic women. Chinese women were less likely to have reconstruction surgery, (only 5% compared to 16% for black women, and 10% for white and Hispanic women). Among those with mastectomy, the rates of reconstruction surgery in the four ethnic groups were 28%, 10%, 12% and 20% respectively.

Ethnic differences were evident in use of conventional treatments by stage (Table 8). As previously noted, White women were less likely than women of other ethnicities to use chemotherapy regardless of stage. Chinese and Hispanic women with early stage diagnosis were less likely to use radiation treatment than Blacks or Whites. As expected when women had a late stage diagnosis, they were more likely to have had all types of conventional treatments.

Table 9 shows the use of unconventional therapies by ethnicity and by stage. Again, ethnic differences are evident in choosing alternative therapies independent of stage at diagnosis. In general more women with late stage breast cancer used alternative therapies. The exception was among White women who used body therapy (23% for those with early stage and 9% for those with late stage).

The next table, (Table 10) summarizes the magnitudes of various factors associated with using alternative therapies. We employ one plus (+) for odd ratios between 1 to 3; two pluses (++) for odds ratios between 3 to 5; three pluses (+++) for odds ratios higher than 5; one minus (-) for odds ratios lie between .99 to 0.5; two minuses (--) for odds ratios lie below 0.5; and zero (o) means no association.

We notice that factors influencing choices of alternative therapies vary tremendously for different categories of therapies. For example, younger women less than 55 years of age are more likely than older women to use diet, mind or body therapies, but much less likely to use hormone therapy.

Similarly, women with higher education were more likely to use diet, mind or body therapies but were less likely to use hormone therapy than less educated ones. On the contrary, women who reported being satisfied about their life were less likely to use diet, mind or body therapies, but more likely to use hormone therapy than women who indicated dissatisfaction about life.

Women who had counseling or attended support groups were much more likely to use diet, mind or body therapies but not hormone therapy than women who had not participated in counseling or support groups. Alcohol drinkers, those whose mother had breast cancer, those with gynecological problems or other illnesses, and those with late stage of diagnosis also were more likely to use diet, mind or body therapies.

CONCLUSIONS:

In summary, this study is still preliminary. We are still conducting data analyses, so definite conclusions would be premature. Also, our study participants were asked to recall their use of various therapies 3 to 5 years after cancer diagnosis which may lead to recall bias. Possible confounding is another problem, for example, age and stage of diagnosis, satisfaction about life, and support group attendance may all be related to each other, thus we need to do additional multivariate analysis to clearly state which factors truly are associated with choosing alternative therapies after controlling for confounders. Our results indicate that use of alternative therapies is a very complicated issue; that is, use of different therapies varies between ethnic groups; and factors influencing choices of therapies also vary by type of therapy and ethnicity. We conclude that use of alternative therapies is a very important area of breast cancer research and should not be neglected.

Although the funding for the study ended in August, 1996. Our plan for the future is to continue working on multivariate analysis, to sort out exactly which factors are most important in predicting choice of alternative breast cancer therapies. We will seek additional funding to assess quality of life among these patients and to document their recurrence status. Finally, we will write more grant proposals for a more in-depth study or to conduct clinical trials if findings warrant such a trial.

**Table 1. Contact Process for Breast Cancer Therapy Study
in Four Ethnic Groups**

Ethnicity	W	B	H	C	Totals
# Eligible	149	168	141	161	619
# MD refusals	8	5	0	1	14
# Subject letters sent	141	163	141	160	605
# Deceased/moved/not available	33	52	32	53	170
# Available	108	111	109	107	435
# Never had breast cancer	2	4	3	1	10
# Mental or language problem	0	1	0	1	2
# Subjects refused	6	5	5	30	46
# Subject interviews	93	92	83	62	330
# Proxy interviews	7	9	18	13	47
# Total interviews completed	100	101	101	75	377
Participation rate	100/106 (94%)	101/106 (94%)	101/106 (94%)	76/105 (71%)	377/423 (89%)

Table 2. Characteristics of Study Population

	Black	Chinese	Hispanic	Whites
Mean Age	55.5	56.0	56.2	56.1
% High School Graduate	52	42	33	73
% > \$20,000 Income	49	64	49	75
% Foreign Born	1	73	56	16
% Private Insurance	76	67	65	80
% Living Alone	27	31	15	36
% Never Married	7	11	12	21
% Christian Faith	69	32	83	65
% Early Stage	65	78	69	74
% Family History of Breast Cancer	22	17	13	17

Table 3. Perception of Health Status Before and After Breast Cancer Diagnosis

	Black %	Chinese %	Hispanic %	Whites %
Excellent/Good				
Before	84	76	81	88
After	64	74	62	79
Fair/Poor				
Before	16	24	19	12
After	36	26	38	21

Table 4. Percentages of Women Using Various Breast Cancer Therapies

	% Black	% Chinese	% Hispanic	% White	% All
Chemotherapy	53	34	52	26	42
Radiation	46	41	42	49	45
Macrobiotic	0	3	2	2	2
Megavitamins	9	2	6	9	6
Other Diet	12	13	28	30	20
Homeopathy	1	0	5	1	3
Herbal	10	17	13	7	12
Psychological	9	6	12	28	13
Spiritual	38	6	28	22	25
Physical	5	8	17	18	11
Hormone	24	27	43	20	34

Table 5. Average Time in Months Women Used Various Breast Cancer Therapies

	Black	Chinese	Hispanic	White
Chemotherapy	6.3	7.4	6.2	8.8
Radiation	3.7	4.2	2.3	2.5
Macrobiotic	0	1.0	0.3	0.5
Megavitamins	3.6	0.3	6.8	5.5
Other Diet	2.8	3.3	2.4	4.0
Homeopathy	0.5	0	0.2	5.0
Herbal	1.7	2.1	5.2	1.4
Psychological	4.2	1.7	7.1	6.3
Spiritual	36.2	4.8	28.5	29.5
Physical	0.8	2.8	3.0	7.0
Hormone	3.6	2.2	3.4	3.1

Table 6. Percentages of Women Using Alternative Therapies

	Black	Chinese	Hispanic	Whites	All
Diet	19	30	35	37	30
Mind	43	13	32	42	34
Body	5	8	17	18	12
Hormone	25	27	42	20	29
At Least One Type	59	50	77	64	64
Two Types	47	42	58	40	47

Table 7. Types of Conventional Breast Cancer Treatment by Ethnicity

	%			
	Black	Chinese	Hispanic	White
Biopsy	91	92	92	99
Lumpectomy	48	31	39	48
Modified Mastectomy	33	18	37	35
Radical Mastectomy	24	30	28	20
Reconstruction Surgery	16	5	8	11
Among those with Mastectomy	28	10	12	20

**Table 8. Percentages of Women Using Different Conventional Therapies
by Ethnicity and Stage**

Therapy	Stages	Black	Chinese	Hispanic	Whites
Surgery	Early	100	100	100	100
	Late	100	82	100	100
Chemotherapy	Early	43	30	34	16
	Late	91	82	86	56
Radiation	Early	54	36	38	52
	Late	73	64	62	63

**Table 9. Percentage of Women Using Different Unconventional Therapies
by Ethnicity and Stage**

Therapy	Stage	Black	Chinese	Hispanic	Whites
Diet	Early	15	19	37	33
	Late	27	50	29	50
Mind	Early	38	7	33	41
	Late	52	25	29	36
Body	Early	5	5	15	23
	Late	6	25	23	9
Hormone	Early	25	24	45	20
	Late	24	41	39	23

Table 10. Factors Associated with Using Alternative Therapies

	Diet	Mind	Body	Hormone
Age Younger than 55	+	+	+	--
Native Born	-	++	+	-
Income > 20,000	+	+	+	-
> High School Education	++	++	+++	-
Private Insurance	+	++	+	0
Marriage	+	-	-	0
Satisfaction About Life	-	-	-	+
Exercise	+	+	+	-
Smoking	-	-	-	-
Alcohol Drinking	+	+	+	-
Had Counselling	+++	++	+++	0
Attend Support Group	++	+	+++	0
Mother Had Breast Cancer	+	+	++	-
Had Gynecological Problems	+	+	+	-
Had Other Problems	+	+	+	+
Late Stage	++	+	+	0

OR (+) 1-3; (++) 3-5; (+++) >5

OR (-) .99-0.5; (--) <0.5

OR (0) No Association

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The pattern of presentation and the incidence of breast cancer in orthodox and non-orthodox women in Jerusalem was evaluated.

Methods: 1041 consecutive Jewish women diagnosed with breast cancer, residing in Jerusalem, registered at our registry between July 1989 and December 1994, were evaluated regarding age, stage at presentation, number of children, country of birth and marital status. Objective index of level of being orthodox was defined by combining the information of the address of each individual with the information of elections results in each residential zone. (Data from the Bureau of Statistics Office of The State of Israel.) Two main parties are known to represent the orthodox community and their relative representation in each zone defined level of being orthodox.

Results: Orthodox women with breast cancer were younger at diagnosis than non-orthodox women, had more advanced stage at presentation and had more children. All results statistically significant. No difference in country of birth (Israel vs non-Israel), and marital status (married vs non-married) background was observed. The incidence of breast cancer in orthodox women in Jerusalem was significantly lower as compared to non-orthodox women. (Assuming that our registry includes the vast majority of Jerusalem women diagnosed with breast cancer.)

Conclusions: Delay in diagnosis may account for the more advanced stage of disease at diagnosis of orthodox women. Younger age, however, suggests a different biological behaviour. Life style may account for the lower incidence of disease in this sub-group of patients. Further epidemiological, molecular and genetic evaluation are warranted to further elucidate our findings. Supported by The Israel Women's Network

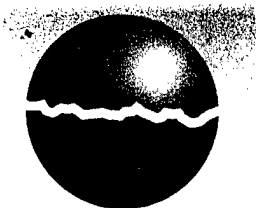
Choices of Breast Cancer Therapies in Four Ethnic Groups

*Marion Lee, Margaret Wrench, Shelley Adler; Department of Epidemiology and Biostatistics, University of California at San Francisco, USA

A woman diagnosed with breast cancer confronts a wide variety of treatment choice including the standard treatments of surgery, chemotherapy, radiation and/or hormones and complementary or alternative therapies such as metabolic and dietary therapies, mental imagery, or spiritual healing. In the United States, as frustration with conventional therapies increases, interest in alternative treatments for cancer is growing steadily. As part of the on-going breast cancer outcomes study, in 1995, we conducted a survey among 250 breast cancer patients in four ethnic groups, Hispanics, whites, blacks, and Chinese Americans, diagnosed in San Francisco, California between 1990 and 1992 to assess the use and the consequences of these alternative treatments.

Ethnic differences are evident in the use of various therapies. 52% of white, 56% of black, 75% of Hispanic and 51% of Chinese women used at least one type of alternative treatments. More white (29%) and Hispanic (27%) women with breast cancer used dietary regimens than black (15%) and Chinese (10%); and more black (33%) women who had breast cancer used faith healing than other non-black women; and more white (20%) women with breast cancer used psychological methods than other non-white breast cancer patients. Black cancer cases reported having the most declined health perception among all four ethnic groups, while reported the highest social support score. Factors influencing the choices of breast cancer therapies will also be presented.

Findings of this survey will enhance doctor-patient communication and will contribute important data to breast cancer research.



**21ST MEETING
OF THE INTERNATIONAL
ASSOCIATION
FOR BREAST CANCER
RESEARCH**

**PARIS (FRANCE)
JULY 3-4-5, 1996**

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Paris, May 2, 1996
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Dear Colleague,

We are pleased to inform you that your abstract entitled:

"Choices of breast cancer therapies in four ethnic groups"

has been selected for an oral presentation at the 21st Meeting of the International Association for Breast Cancer Research in the Workshop 4B:

"NUTRITION AND BREAST CANCER"

scheduled on Thursday, July 4 from 3:00 p.m. to 5:00 p.m.

You will have 15 minutes maximum for your presentation and discussion. Oral presentations and accompanying slides must be in English.

We wish to remind you that papers can only be included in the program if the registration fee has been received by June 3, 1996.

We look forward to your participation.

Yours sincerely,

Fabien Calvo, M.D., Ph.D.

Michel Crépin, Ph.D.

Henri Magdelenat, Ph.D.