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The Relationship Between Body Image, Gender, Subjective Norms, and the Decision to Undergo Preventive Mastectomy Among Arab and Jewish BRCA Carriers

KEY WORDS

Body image

BRCA

Culture

Preventive mastectomy

Subjective norms

Background: Carriers for a mutation in BRCA1/2 genes have a high, lifelong risk for developing breast cancer. Preventive mastectomy is considered an effective risk reduction surgery. Many factors might affect the decision to undergo preventive mastectomy, including culture, perceived body image after mastectomy and important others opinion. **Objective:** The aim of this study is to evaluate BRCA mutation carriers' decision to undergo preventive mastectomy and the relationship between culture, gender, body image, and the decision. **Methods:** The study was a cross-sectional design where Arab and Jewish men and women were requested to imagine that they were/their spouse was a BRCA mutation carrier. The sample consisted of 200 participants, 101 Arab and 99 Jews, included 101 women and 99 men. **Results:** The results show a high intention to undergo preventive mastectomy. Being Arab and having a more positive perception of body image after the surgery were connected to more intention to undergo the surgery. Also, those who intended to choose the surgery considered more the opinions of important others. **Conclusions:** The results point to the importance of partners' involvement in the decision to undergo preventive mastectomy. Also, important others (relatives, friends, and health caregivers) have an impact on the decision. **Implications for Practice:** Nurses need to consider cultural aspects of patients considering a decision about

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whether to undergo preventive mastectomy. Understanding the important others who might influence the decision and including them in the decision process are both essential.

Breast cancer is the second most commonly diagnosed cancer in women worldwide.¹ In Israel, about 4500 women are diagnosed with breast cancer annually.² About 5% to 10% of breast cancer cases are hereditary and linked to a mutation in either BRCA1 or BRCA2 genes.³

Women who are carriers of a mutation in BRCA1 or BRCA2 genes have a high lifelong risk of developing breast and ovarian cancer. The cumulative risk of breast cancer in BRCA1/2 gene mutation carriers (until age 80 years) is 66% to 67%.⁴ About 2.5% of Ashkenazi Jews are carriers of a BRCA1/2 mutation, with 3 identified founder mutations in the 2 genes.^{5,6} A high percentage of the Jewish population in Israel is at a high risk of being BRCA mutation carriers. Accordingly, about 35% of the Jewish population in Israel is “pure” Ashkenazi and a further 35% are Israeli born or partly Ashkenazi (from mixed marriages with Jews from other origins).⁷ In contrast, very few Israeli Arabs are carriers of mutations in these genes, and there are no known founder mutations in the BRCA genes of the Israeli Arab population.^{5,6}

Current risk-reduction strategies for women carrying the BRCA1 or BRCA2 mutations include intensive surveillance such as self-examination, clinical expert breast palpation, mammograms, breast ultrasound, and magnetic resonance imaging, as well as active prevention, such as preventive mastectomy (PM) and chemoprevention.² Preventive mastectomy appears to reduce the risk of breast cancer by 85% to 100% in BRCA mutation carriers.³ Many factors might influence the carrier’s decision to undergo PM. Some are physical and some are social and psychological, such as body image, age, family history of breast cancer, clinicians’ considerations, opinions of family, relatives, friends, physicians, or one’s spouse.^{8–11}

Body image is “a multidimensional construct that includes body image evaluation, cognitive-behavioral investment, and affect.”¹² Evaluation of one’s body image relates to satisfaction or dissatisfaction with one’s appearance and body shape. Body image refers to the individual’s emotional reaction to his/her self-appreciation.¹³ Body image may be affected by cancer treatments that result in major changes in patients’ appearance, through loss of a body part, scars, skin changes, and disfiguring surgery such as mastectomy.¹⁴ Women usually have more concerns about their body image than men do because they are perceived as being more sensitive to their looks.¹¹ A recent systematic review concluded that body image concerns are related to several factors, including younger age and treatment type.¹⁵

Preventive mastectomy may affect self-perceived body image, which is affected by the perception and support of significant others. Women who have had a mastectomy have described themselves as “incomplete” because of their appearance, which disturbed them and their partner.¹⁶ This study evaluated perceived body image after PM. However, the present study aims to evaluate the perception of women who did not perform PM of their body image after surgery and how this perception

associates with the intention to undergo the surgery. Accordingly, we hypothesized a positive correlation between women’s self-perceived body image after PM and the intention to undergo PM.

Few studies have evaluated the association between spouses’ perception of their partner’s body image after mastectomy and its influence on the decision to carry out PM. One of these studies showed that women’s body image concerns and their spouse’s opinion were very important for their decision whether to undergo PM.⁹ A recent qualitative study reported that spouses of BRCA mutation carriers were concerned about their wives’ postsurgical appearance.¹⁷ Therefore, we hypothesized that the more positive spouses’ perception of their partner’s body image after PM, the more inclined they will be to think that their partners should undergo PM.

One important factor that may impact the reactions of both the woman and her spouse to PM is culture. Culture refers to the cumulative deposit of beliefs, values, symbols, attitudes, meanings, roles, and concepts that are shared by a group of people; it enables them to communicate with each other and to realize their material and emotional needs.¹⁸ Most studies conducted concerning PM from a cross-cultural approach compared the cultures of different countries. However, in Israel, Arabs and Jews live in the same country but belong to distinct cultural groups. Arabs comprise about one-fifth of Israel’s population.¹⁹ Arab and Jewish women have a different degree of risk of breast cancer. The cumulative risk of breast cancer during one’s lifetime is 12.8% among Jews and 7% among Arabs.² Arabs and Jews are religiously and culturally diverse and mostly live in separate towns and villages, speak different languages, and have different levels of education and standards of living.²⁰ Israel’s Arab society is more religious and conservative, whereas Jews are a culturally heterogeneous group, most of whom lead a modern Western lifestyle.^{21,22} Although Israeli Arabs are going through a process of modernization, they preserve many traditional aspects of life.¹⁹ Culture might have an impact on medical decision making. For example, in Arab families, the family and specifically the male members of the family (husband, father, and brothers) are involved in many decisions, including health-related decisions.²³ This is in contrast to Israel’s Jewish population, which is considered a Western culture, with autonomy and individualistic values, and supports independent decision-making.²²

With regard to breast cancer in the Arab society, having cancer is still a stigma that contributes to a sense of shame and efforts to hide the disease and treatments from others.²⁴ Arab women have been described as referring to breast cancer as a shameful and lethal disease, which they tend to hide from different social circles, such as certain relatives, friends, and neighbors. In contrast, women in the Jewish society tend to share the knowledge of their disease with their immediate family, extended family, friends, and neighbors.^{21,23}

One of the theories that emphasizes the effect of social environment on one’s intentional behavior is the theory of planned

behavior, which assumes that perceived behavioral control, attitudes toward the behavior, and subjective norms determine the behavioral intention and that the latter is the strongest predictor of actual behavior.²⁵ The term *subjective norms* designates the influence of close people on the intention to perform a specific behavior and refers to the perceived social pressure by significant others to perform or not to perform a certain behavior.²⁵ Few studies have examined the influence of important others' opinions (subjective norms) on the intention to undergo PM. Hence, in the present study, we examined the effect of the opinion of close people on the woman's intention to undergo PM. Accordingly, one's intention to perform a specific behavior and his/her actual behavior is influenced by the attitudes and opinions of close people concerning the behavior. These attitudes may have a different effect in diverse cultural groups, such as in the Arab and Jewish cultures. We hypothesized that Arabs would be more strongly influenced by the opinions and views of their family members and close people when deciding whether to undergo PM.

The influence of significant others on the decision-making process of women with a high risk of developing breast cancer in different cultures has received scant research attention. One study conducted in the United States on BRCA mutation carriers who were facing a decision of whether to undergo PM showed that the involvement of family members in the decision-making process of whether to undergo PM was related to culture. Three quarters of Latino women stated that family members had an important part in the decision-making process of whether to undergo PM, compared with only half of African American and a third of white women. Latino women were also more strongly influenced by the opinion of friends, compared with African American and white women.¹⁰ These findings represent cultural differences in the importance and influence of family and significant others on the decision-making process of whether to undergo PM. The Arab and Jewish societies in Israel represent 2 distinct cultures living side by side, each speaking a different language and adhering to its own traditions.²⁶ Therefore, we expected to find cultural differences in the importance of significant others on the decision to undergo PM.

The aim of the present study is to examine the relationship between perceived body image after PM, normative expectations, and gender and the decision to undergo PM in the 2 cultures. As spouses' opinions and perceptions might affect their partner's decision of whether to perform PM, we included both women and men.

■ Methods

Study Design

The study was of cross-sectional design where Arab and Jewish men and women were requested to imagine that they were/their spouse was a BRCA mutation carrier. After, the respondents were requested to fill in a questionnaire measuring the respondents' perception of their/their spouse's body image after PM, the important people who might influence the decision, and the intention to undergo PM.

Instruments

The questionnaire included 4 parts:

1. Demographic details: Age, country of birth, ethnic origin, religiosity, marital status, number of children, and level of education were included.
2. Subjective norms: The subjective norms of close people were measured by a questionnaire constructed for the present study to represent the important people that might affect the decision to undergo PM according to the guidelines provided by Ajzen.²⁵ The construction of the questionnaire included an item construction stage and a face validation stage. Eight judges (2 nursing professors and 6 graduate nursing students) were requested to indicate the important people in the decision of whether to undergo PM or not. Only the people who were identified as important for the decision by all judges were included in the questionnaire. Before data collection, a prestudy was conducted including 20 men and women, both Arab and Jewish, for examining the comprehensibility and validity of the questionnaire. The final questionnaire included items relating to the influence of significant others on the decision of whether to undergo PM. The variable was divided into 3 categories: (A) subjective norms of personal kinship—including father/mother, brother/sister, friend; (B) subjective norms of professional kinship—including physician/surgeon and genetic counselor; and (C) subjective norms of religious kinship, including cleric/Rabbi (1 question). The respondents were requested to indicate on a 5-point scale ranging from 1 (not at all) to 5 (absolutely yes) the influence of each person on the intention to undergo PM. Women were requested to grade the influence on their own intention to undergo PM, and men, the influence on their view regarding whether their spouse should undergo PM. A higher score indicates the greater importance of the opinion of that person for the intention to undergo PM. Cronbach's α for personal kinship (mother, father, siblings, and close friends) was .87, and for the importance of a professional kinship (genetic counselor, physician, or surgeon) Cronbach's α was .92.
3. Body image: Body image was measured using the scale devised by Hopwood et al,¹⁴ which measures affective items such as feeling feminine and attractive, behavioral items (eg, find it hard to look at one's self naked, avoid people because of appearance), and cognitive items (eg, satisfied with appearance, or with scar). The questionnaire consists of 8 items. Women were requested to indicate on a 5-point scale ranging from 1 (very low extent) to 5 (very high extent) the effect of their mastectomy on their body image. Men were asked to indicate the effect of their wife's mastectomy on their perception of her body image. An average, of the scores on all items were calculated, with a higher score indicating a lower body image. In the current study, Cronbach's α was .96 for this measure.
4. Intention to undergo PM: The intention to undergo PM was measured by 1 dichotomous question, asking women about their intention to undergo PM (intend/do not intend to undergo PM). Men were asked to indicate their opinion about whether their spouse should undergo PM (should/should not undergo PM).

Procedure

The study was conducted between August and November 2015. Subsequently, a convenience sample of 101 women and 99 men from the north of Israel was recruited; of these, 101 participants were Arab and 99 were Jewish. The inclusion criteria were ages 30 to 60 years, being married or in a relationship, women or spouses of women who had no known risk factors for developing breast cancer, including no family history, and were not carriers of BRCA 1/2 gene mutations. Participants were recruited by the researchers at public offices and workplaces such as schools and the Ministry of Welfare. The rest of the sample was recruited by means of the snowball method. Because the questionnaire deals with a sensitive issue, many participants, especially men and Arabs, felt more comfortable when approached by one of their acquaintances; hence, the snowball approach was taken. Relatives and friends of the researchers were requested to help in disseminating the questionnaires. They were asked to identify friends and acquaintances who fit the inclusion criteria and instructed not to discuss the questionnaires and possible answers with the participants. All participants were given an explanation and guidance concerning the aim of the study (by the person who distributed the questionnaire) and how to complete the questionnaires. Those willing to participate signed an informed consent form. Because no known BRCA mutation is characteristic of Israel's Arab population, and the aim of the study was to perform a cultural comparison, all women were requested to imagine that they had been diagnosed as carriers of a BRCA gene mutation and men—to imagine that their spouse had been diagnosed as a carrier of a BRCA gene mutation. The response rates were 92% among men and 95% among women.

Data Analysis

Data were analyzed using the IBM SPSS English version 22.0 software (SPSS Inc, Chicago, Illinois). Means and frequencies were used as descriptive statistics for personal characteristics and for the main research variables. For examining differences according to sample characteristics, χ^2 and t tests were applied. One-way analysis of variance (ANOVA) tests were performed to study differences in the intention to undergo PM by the perception of close people's opinions and the differences between Arabs and Jews in the perception of close people's opinions. To examine the variables that were related to the intention to undergo PM, a logistic regression was performed.

Ethical Considerations

The Ethics Committee of Tel-Aviv University approved the study.

Results

Sample Description

The sample included 200 participants, including 101 women and 99 men, of whom 101 were Arab and 99 were Jewish. All participants were married or living with a partner; because partner's opinions might influence each other, study participants

did not include spouses of each other. The mean±SD age was 43.55±8.68 years. Of the participants, 111 (55.5%) were secular, 75 (37.5%) were traditional, and 14 (7%) were religious. Two participants had only elementary schooling (2%), 26 (13%) had secondary education, 41 (20.5%) had post basic training, and 131 (65.5%) had a university degree. The demographic characteristics of the sample by gender and culture (Arab/Jewish) are presented in Tables 1 and 2. As presented in these tables, the differences in sample characteristics by gender or culture were not significant.

PERCEIVED POSTMASTECTOMY BODY IMAGE

The average body image was 2.92±0.93. When comparing body image by culture (Arabs vs Jews), Jews perceived their body image more negatively after mastectomy (2.98±0.78) than Arabs did (2.87±1.06); however, this difference was not significant. A significant difference was found between perceived body image by gender, as women perceived their postmastectomy body image more negatively than men's perception of their partner's body after mastectomy (mean±SD, 3.39±0.84 and 2.45±0.76, respectively, $P<.001$).

INTENTION TO UNDERGO PM

About half the sample intended to undergo/thought that their spouse should undergo PM if she was a BRCA mutation carrier, where 93 (49.5%) agreed and 103 (51.5%) did not agree to go through the procedure. As shown in Table 3, there were significant differences in the intention to undergo PM by age, with older respondents more inclined to undergo PM. Also, Arab participants had a higher intention to undergo PM.

To examine factors that might be related to the intention to undergo PM, a logistic regression was performed. Research variables were entered into the regression: perceived body image,

| Table 1 • Demographic Characteristics by Gender | | | |
|---|---------------|------------|--------------------|
| Variables | Women (n=101) | Men (n=99) | t Test or χ^2 |
| Age | 42.52±8.49 | 44.59±8.79 | $t=1.69$; $P=.09$ |
| Years of education | 15.57±2.55 | 15.58±2.82 | $t=0.03$; $P=.97$ |
| Intention/agreement to undergo PM | | | |
| Yes | 55 (54.5) | 42 (42.4) | $\chi^2=2.89$ |
| No | 46 (45.5) | 57 (57.6) | $P=.09$ |
| Ethnicity | | | |
| Arab | 52 (51.5) | 49 (49.5) | $\chi^2=0.79$ |
| Jewish | 49 (48.5) | 50 (50.5) | $P=.77$ |
| Religiosity level | | | |
| Secular | 54 (53.5) | 57 (57.6) | $\chi^2=1.21$ |
| Traditional | 38 (37.6) | 37 (37.4) | $P=.54$ |
| Religious | 9 (8.9) | 5 (5.1) | |
| Have children | | | |
| Yes | 85 (84.2) | 87 (87.9) | $\chi^2=0.57$ |
| No | 16 (15.8) | 12 (12.1) | $P=.44$ |

Data are presented as mean±SD or n (%).
Abbreviation: PM, preventive mastectomy.

Table 2 • Demographic Characteristics by Culture

| Variables | Arab (n=101) | Jews (n=99) | t Test or χ^2 |
|--------------------|-----------------|----------------|--------------------|
| Age | 44.60±9.02 | 42.30±8.21 | $t=1.89$; $P=.06$ |
| Years of education | 15.71±2.96 | 15.44±2.38 | $t=0.70$; $P=.48$ |
| Gender | | | |
| Female | 52 (51.5) | 49 (49.5) | $\chi^2=0.79$ |
| Male | 49 (48.5) | 50 (50.5) | $P=.77$ |
| Religiosity level | | | |
| Secular | 56 (55.4) | 55 (55.6) | $\chi^2=1.46$ |
| Traditional | 40 (39.6) | 35 (35.4) | $P=.48$ |
| Religious | 5 (5) | 9 (9.1) | |
| Having children | | | |
| Yes | 88 (87.1) | 84 (84.8) | $\chi^2=0.21$ |
| No | 13 (12.9) | 15 (15.2) | $P=.64$ |

Data are presented as mean±SD or n (%).

gender, culture (Arab/Jewish), and the interactions between the variables (Table 4). As shown, all 3 main effects and the interaction between gender and culture achieved significance. Results indicate that being Arab or a woman and having better perceived body image were associated with greater intention to undergo PM. The interaction between culture and gender indicates that Arab and Jewish women show a similar intention to undergo PM (55.8% and 53.1%, respectively), whereas Arab men were much more inclined to be in favor of their partner undergoing PM than Jewish men were (61.2% and 24%, respectively).

THE PERCEIVED INFLUENCE OF SUBJECTIVE NORMS ON THE INTENTION TO UNDERGO PM

To examine the importance of significant others on the decision of whether to undergo PM, a 1-way ANOVA was performed. The results show that participants who intended to undergo PM perceived more strongly that their significant others believe they should undergo the surgery (Table 5). Those who intended to

Table 4 • Logistic Regression: Intention to Undergo Preventive Mastectomy

| Variables | Odds Ratio | 95% Confidence Interval | P |
|------------------|------------|-------------------------|-------|
| Gender | | | |
| Female 1 | 6.04 | 2.35–15.54 | .0001 |
| Male 0 | | | |
| Culture | | | |
| Arab 1 | 10.36 | 1.77–10.51 | .001 |
| Jewish 0 | | | |
| Body image | 10.61 | .35–.77 | .001 |
| Culture × gender | 4.23 | .08–.94 | .040 |

undergo the surgery were more considerate of the opinion of significant others: personal kinship, professional kinship, and religious kinship. When examining the significance of religious kinship by religiosity, the results show that more religious participants ascribe more importance to the opinion of religious kinship than secular participants ($F=4.70$, $P=.01$).

Differences between the perceptions of significant others' opinion were found between cultures, with Arabs ascribing more value to the opinion of significant others than Jews did. A 1-way ANOVA was performed, and the results show that for the opinion of close persons, Arabs attained a mean±SD score of 3.24 ± 1.18 , and Jews 2.79 ± 1.11 ($F=7.55$, $P=.007$), and for professional opinion, Arabs scored $4.34\pm.86$ and Jews scored 3.72 ± 1.26 ($F=17.99$, $P<.001$). However, for religious kinship's opinion, although Arabs scored higher, the difference was not significant (mean±SD): for Arabs, 2.57 ± 1.39 , and for Jews, 2.29 ± 1.47 ($F=1.92$, $P=.16$).

■ Discussion

To our knowledge, this is the first study to investigate both women's and men's intention to undergo PM in case they/their

Table 3 • Demographic Characteristics by Intention to Undergo/Spouse Undergo PM (N=200; Yes=97; No=103)

| Variables | Intention to Undergo PM | No Intention to Undergo PM | t Test or χ^2 |
|--------------------|-------------------------|----------------------------|---------------------|
| Age | 45.32±9.11 | 41.58±7.94 | $t=2.87$; $P=.004$ |
| Years of education | 15.72±2.82 | 15.44±2.57 | $t=0.72$; $P=.47$ |
| Culture | | | |
| Arab | 59 (60.8) | 42 (40.8) | $\chi^2=8.03$ |
| Jewish | 38 (39.2) | 61 (59.2) | $P=.005$ |
| Gender | | | |
| Female | 55 (56.7) | 46 (44.7) | $\chi^2=2.89$ |
| Male | 42 (43.3) | 57 (53.3) | $P=.09$ |
| Religiosity level | | | |
| Secular | 57 (58.8) | 54 (52.5) | $\chi^2=1.80$ |
| Traditional | 38 (33.0) | 46 (41.7) | $P=.40$ |
| Religious | 9 (8.2) | 6 (5.8) | |
| Children | | | |
| Yes | 86 (88.7) | 86 (83.5) | $\chi^2=1.10$ |
| No | 11 (11.3) | 17 (16.5) | $P=.29$ |

Data are presented as mean±SD or n (%).

Abbreviation: PM, preventive mastectomy.

Table 5 • 1-Way Analysis of Variance Test: Intention to Undergo Prophylactic Mastectomy and the Perception of Close People's Opinion

| Intention to Undergo Preventive Mastectomy | | Mean ± SD | F |
|---|-----|-------------|--------------------|
| Personal kinship opinion | Yes | 3.67 ± 0.99 | 83.39 ^a |
| | No | 2.40 ± 0.96 | |
| Professional kinship opinion | Yes | 4.45 ± 0.77 | 31.96 ^a |
| | No | 3.64 ± 1.20 | |
| Rabbi/clergyman opinion | Yes | 2.80 ± 1.49 | 13.18 ^a |
| | No | 2.08 ± 1.29 | |

^a $P < .001$.

spouse were diagnosed as carriers of a BRCA gene mutation. The results show that about half the respondents intended to undergo/thought their spouse should undergo PM. A previous study examining the intention of Israeli positive BRCA mutation carriers to undergo PM found that only 5% of carriers intended to undergo the surgery.²⁷ The difference between the 2 studies might result from several reasons; first, the participants in the present study were not actual BRCA mutation carriers as compared to the study cited. Hence, the decision they faced was not entirely realistic and might have been easier to comply with. Also, in 2013, Angelina Jolie announced her performance of PM, an act that was covered widely by the media and caused the public to search for information about cancer and PM.²⁸ It is possible that the wide and positive publicity surrounding Jolie's operation, designated the "Angelina Jolie effect," raised the public's awareness of PM and was associated with the increase in the intention to undergo the surgery. Indeed, a study published recently reported an increase in performance of PM among BRCA mutation carriers as a result of the positive coverage of Angelina Jolie's PM in the media.²⁹

As mentioned above, the decision of whether to undergo PM is not a straightforward process. The high behavioral intention found in the present study may result from the participants' knowledge of the impact of their decision on reducing the risk of breast cancer and promoting survival. A qualitative study exploring decisions to undergo PM among BRCA mutation carriers reported that the desire to remain alive was one of the factors influencing the decision.³⁰ Another study of 123 women who underwent PM reported that the main reasons for opting for the surgery were reducing the risk of breast cancer and increasing their survival rate.³¹

The decision to undergo PM was associated with culture; we found that Arabs had a higher intention of undergoing PM. Because Arab society in Israel is more traditional and influenced by complex attitudes, norms, and social pressures,^{26,32} it also has different disease perceptions and specifically more cancer worries.^{22,32} It was expected that Arabs would be less inclined to undergo PM. However, the literature shows that the Arab sector in Israel is undergoing a modernization process; from a closed society to a more developed one, with a rise in the level of education, integration into Israeli society, and advancement of women in the labor market.^{20,23} All of this has encouraged

the adoption of a more modern lifestyle and norms, which has probably affected the perception of breast cancer and the readiness to undergo risk-reducing treatments such as PM.

Further investigation of the results revealed that the difference between the cultures stems from the greater support of Arab men of their spouses' choice to undergo PM. It may be that being a BRCA mutation carrier caused women to perceive PM as a more favorable risk-reduction solution. A certain study found that one of the main pivotal points of decision on whether to undergo PM was receiving a positive BRCA mutation test result.³⁰ In the present study, all participants were requested to imagine that they were BRCA mutation carriers, and the questionnaire in fact illustrated the moment of receiving the test results. It is possible that this represented the "pivotal" time point that influenced their intention to undergo the surgery.

Regarding the difference between Arab and Jewish men, although Arab society is undergoing a process of modernization, men still have more authority and in many cases are in charge of decision making in the family.²⁰ As those responsible for their family, Arab men probably feel that they should also make decisions for their spouses; hence, they were more inclined to agree that their spouse should undergo PM while Jewish men probably think this should be a joint decision. According to the research procedure, the study did not include couples, and it is possible that if interviews were conducted together with their female partners, Arab participants would have shown different results.

The present results show that positive perceived body image after PM of both men and women was related to greater intention to undergo PM. The importance of women's self-body image perception on their decision to undergo PM is well documented.^{33–35} However, the present study also shows that spouses' body image perception of their partner after PM is associated with their perception that their partner should undergo PM, pointing to the importance of discussing the implications of PM with spouses of women who are facing the decision to undergo PM. This also indicates that both partners need support during the decision-making process regarding PM, which can be offered by the medical and nursing staff.

In agreement with previous studies, women perceived their post-PM body image more negatively compared with men's perception of their partner's body after PM. Gopie et al³⁶ reported that BRCA mutation carriers had a negative body image after mastectomy: about one-third of women who underwent mastectomy were dissatisfied with their body appearance, about one-half of them were displeased with the mastectomy scar, and one-third felt less physically attractive. One possible explanation why body image is perceived more negatively among women is that it is the woman's body that changes and is affected by the surgery, which probably causes negative feelings. In addition, breasts are part of womanhood and have a sexual connotation. Women after PM may feel less womanly and less attractive. However, one of the only studies to examine men's reactions to their partner's mastectomy was carried out among 25 men whose spouses were BRCA mutation carriers. All of the men reported that they felt the same level of attraction to their

partner after mastectomy as before. Only a minority of men mentioned concern about the appearance of their spouse after the surgery.¹⁷

The result whereby Jews perceived their body image more negatively after mastectomy than Arabs did was surprising, based on the impact of cultural differences, for instance, the Arab culture being more traditional and conservative, and the differences in cancer perception between the cultures,²⁴ particularly because the disease is related to the breasts, which have sexual connotations. This may generate a sense of embarrassment and shyness among Arabs, particularly considering findings indicating that Arabs in Israel tend to hide their diseases from others.²⁰ However, Israeli Arab society has a collectivist orientation leading to a sense of belonging, support, and trust.²⁶ The feeling of solidarity and support from the community and from the extended and close family might have an impact on people's post-PM body image perceptions, which results in a more positive body image perception.

In the present study, we found that those who intended to undergo PM were more considerate of the opinion of significant others. Hawley et al¹⁰ concluded that women from different cultures facing the decision of whether to undergo PM found the opinions of close and extended family and friends important. However, most women ascribed the most significance to their spouse's opinion. Another study reported the influence of physicians' recommendations on the decision.³⁰ The present study adds the importance of religious affinity in the decision to undergo PM. The importance of religious kinship was demonstrated in both cultures. Religious participants ascribed more importance to the opinions of religious kinship, which is probably related to their faith in God. Religious Arabs believe that everything is in God's hands, and their destiny is to return to God.³² In Judaism as well, people are fully dependent on God, and God determines everything in one's life.³⁷ When a person believes that all is in God's hands, the opinion of the "Divine representative" has an important role in one's decision making.

Arabs had a higher perception of the importance of significant others' beliefs that women at risk should undergo PM. The strongest correlation was with personal kinship. This might reflect, once again, the support of family and friends in Israel's Arab collective society.²⁶ The professional kinship, which included the physician, surgeon, and genetic counselor, was also perceived as more important for decision making among the Arab participants. This might stem from the conservative nature of Arab society members that accord a high degree of respect to healthcare workers, are more attentive to their advice, and depend less on themselves when facing health.²⁰

There are a few limitations to our study. First, the participants were not facing a real decision-making process, rather they were requested to imagine this scenario. Nonetheless, using this approach, which simulated a scenario of being a carrier or a spouse of a carrier, was necessary to compare the 2 cultures, as there are hardly any BRCA mutation carriers in Israel's Arab population. However, previous studies using scenarios to simulate real situations have shown that they predict respondents' actual behavior.^{38,39} Also, because BRCA mutation carriers are rare in

the Arab population,⁴⁰ the option of being a carrier might have been perceived as more realistic by the Jewish participants. Nonetheless, the results show that Arabs were more inclined to undergo PM. Another possible limitation is the cross-sectional design of the study, where the participants were requested to state their intention to undergo PM while imagining that they or their spouses were BRCA carriers. McQuirter et al³⁰ found that the major pivotal time for making a decision to undergo PM is when receiving test results of being a BRCA mutation carrier. The women in the study claimed that the decision of whether to undergo PM was an easy one. Similarly, the present research design illustrated the pivotal time point for decision making. An additional limitation is the fact that the research tools were validated only by face validity. Another possible bias is using the snowball sampling method, which might pose a threat on the internal validity of the study, as the 2 study groups might be dissimilar, however, both groups were not statistically different. Thus, it does not seem that the sampling method necessarily constitutes an alternative explanation to the study findings. Nevertheless, the possibility that other demographic characteristics, which were not measured in the present study, may influence the results should not be disregarded. It is recommended to replicate the study in a more representative sample and on actual BRCA gene mutation carriers.

■ Conclusions

The study highlights the complexity of the decision of whether to undergo PM for both spouses. The decision is associated with one's culture and perceived body image. It is important to support women and their partners throughout the decision-making process in a culturally competent manner, with regard to the meaning of post-PM body image for both men and women. As the opinion of significant others was perceived as important for the decision, it is advisable to involve significant others in the decision-making process.

Nursing Implications

Although the participants in the present study were not BRCA mutation carriers, the results have implication for actual BRCA gene mutation carriers and for the nurses caring for them. Many factors influence the decision of whether to undergo PM. Even when women who are BRCA gene mutation carriers are aware of the decreased cancer risk resulting from PM, they may be reluctant to perform it. Nurses play an important role in the decision processes before surgery. Nurses supporting women during the course of the decision making of whether to undergo PM must relate to the cultural background and tailor the support accordingly. Important others' opinions, especially spouses, are important for the decision; hence, it is essential to identify those people and involve them in the process. Because the perception of body image after PM was found significant for both spouses, it is important to raise this issue before PM relating to the different aspects of body image, including sexual intimacy, the scar, and sense of femininity. As part of the support, it is

possible to show pictures of scars and perhaps initiate meetings with women who have undergone PM. This can help couples with the decision-making process.

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