

# THE PSYCHOLOGICAL IMPLICATIONS OF GENETIC COUNSELING AND GENETIC TESTING ON WOMEN WITH BREAST CANCER IN SAUDI ARABIA



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## BACKGROUND

People who inherit harmful variants in BRCA1/2 genes have increased risks of several cancers—most notably breast and ovarian cancer, (55% to 85%) breast and (16% to 60%) ovarian cancer (1). People who have inherited a harmful variant in BRCA1 and BRCA2 also tend to develop cancer at younger ages than people who do not have such a variant. Genetic testing has made it possible to know the patient's risk status, which in turn has implications on the patient and their family members, especially first-degree relatives (parents, children, and his or her siblings) who could share the mutated allele(2). Knowing if the patient is a carrier for a specific mutation could help other blood relatives to decide whether they want to undergo genetic testing or not. To help individuals and their families to cope with genetic risk information, we need to understand the psychosocial impact of genetic testing to develop better health communications about counseling services, genetic tests, and interventions. In this study we want to study the effect of positive genetic test results on the breast cancer patients and to investigate the outcome of offering genetic counseling to these individuals.

## METHODS

This study is a qualitative study. It was conducted at King Faisal Specialist Hospital & Research Center in Riyadh, Saudi Arabia. It included a total of 30 Saudi females who are affected with breast cancer and were interviewed by phone. A validated questionnaire was used to gather information about those females (<https://psycnet.apa.org/record/2002-18664-004>).

It explored their experience with the positive genetic test results and how it affected them. Also, the role of genetic counseling in their lives. All the data was collected between 28 June 2021 to 24 August 2022.

## RESULTS

Characteristic		Number of patients (N=30)	Percentage of patients (%)
Region	Central	19	63.3
	Eastern	3	10.0
	Northern	3	10.0
	Southern	4	13.3
	Western	1	3.3
Education level	Elementary School	2	6.7
	High School	6	20.0
	Diploma	4	13.3
	Bachelor	15	50.0
	Master	2	6.7
Employment status	PHD	1	3.3
	Employed	15	50.0
	Retired	3	10.0
	Student	1	3.3
	Unemployed	11	36.7
Age group	27-35 Years	10	33.3
	36-45 Years	9	30.0
	46-55 Years	7	23.3
	56-65 Years	4	13.3
	Divorced	2	6.7
Marital Status	Married	23	76.7
	Single	4	13.3
	Widow	1	3.3
	Having children	Yes	22
On Psychotropic medications	No	8	26.7
	Yes	7	23.3
	No	23	76.7

Table 1 The demographics of the 30 females diagnosed with breast cancer

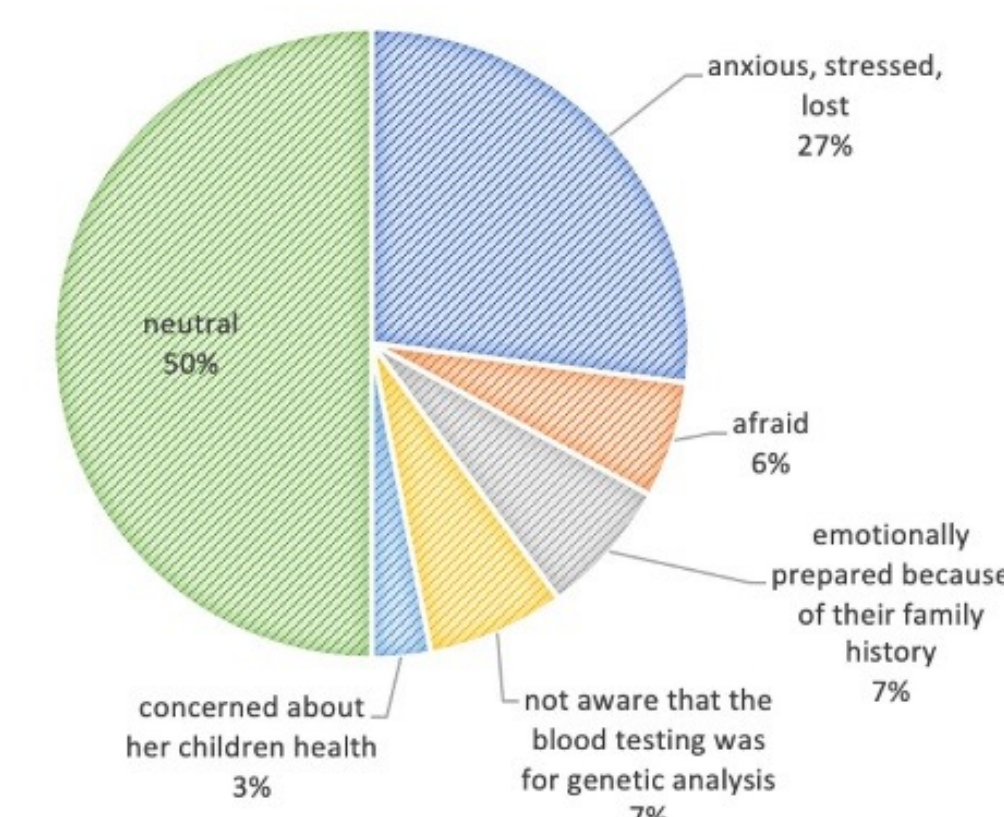


Figure1: The patients' feelings while waiting for test results

	Strongly disagree	Strongly agree	Disagree	Neutral
Feeling sad about my test result	60.0	10.0	6.7	23.3
Feeling anxious or nervous about my test results	56.7	13.3	6.7	23.3
Feeling guilty about my test result	90.0	3.3	3.3	3.3
Feeling relieved about my test result	6.7	73.3	3.3	16.7
Feeling a loss of control	86.7	3.3	3.3	6.7
Having problems enjoying life because of my test result	86.7	6.7	10.0	6.7
My test results has affected my work or family life	83.3	6.7	0.0	10.0
My family was supportive during the genetic counseling process	6.7	70.0	6.7	16.7
Satisfied with family communication about my genetic test result	13.3	60.0	13.3	13.3
Worrying that counseling process has brought conflict within family	86.7	0.0	10.0	3.3
Feeling regret about getting my test results	93.3	0.0	0.0	6.7
Worrying about the possibility of my children getting cancer	26.7	30.0	0.0	43.3
Feeling guilty about possibly passing the disease to my child	60.0	23.3	0.0	16.7
Feeling that genetic test result made it harder to cope with my cancer	86.7	6.7	6.7	0.0
Feeling that genetic test result made it easier to cope with my cancer	13.3	66.7	10.0	10.0

Table 2: The effect of positive genetic test results on the breast cancer patients

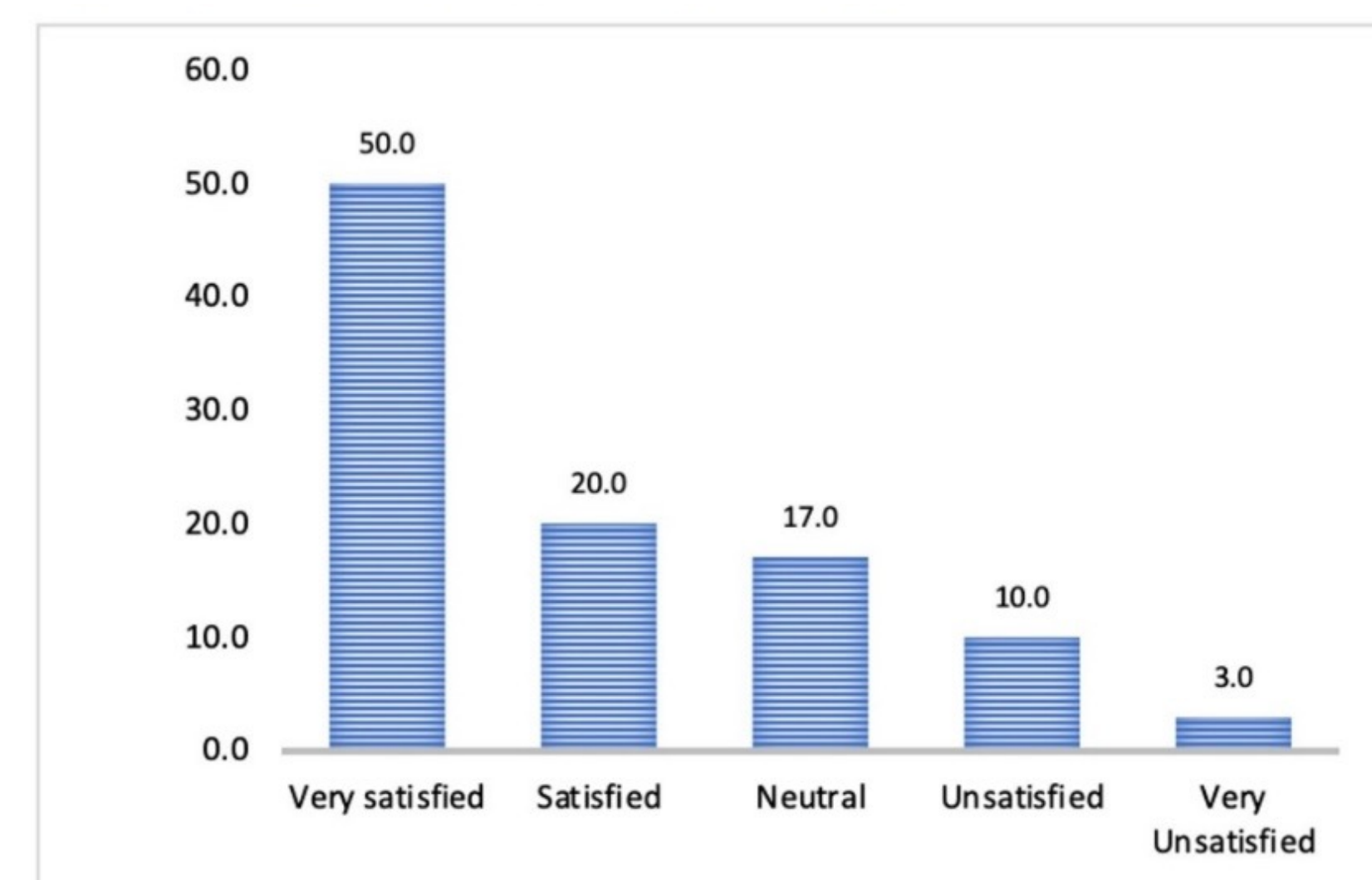


Figure 2 Patients' satisfaction at the time of receiving the genetic test results

## CONCLUSION

Our data implies that there is no significant negative psychological impact of the test result on the patients.

Most of our patients were satisfied with the way they received their result and their experience with the genetic counselor, which had positive impact on their coping process.

Answer	No. of patients	Patient's comments
Yes (total= 24)	3 (10%)	By doing genetic testing for family and children
	7 (23%)	By explaining all needed information
	11 (37%)	By explaining all needed information + genetic testing to family/children
	2 (7%)	By explaining all needed information + giving the patients reassurance
	1 (3%)	By reassuring the patient
No (total= 6)	2 (7%)	The patient does not remember their experience
	2 (7%)	Patients felt they cannot assess the counseling session
	1 (3%)	Patient had previous knowledge
	1 (3%)	The patient feels she is beyond help

Table 3: The patients' reply toward if the genetic counseling session was helpful

## CONFLICT OF INTEREST AND ACKNOWLEDGMENT

No acknowledgment

The author has no conflict of interest to declare

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