

*Research Article***Clinical Characteristics of Breast Cancer in Young Women  $\leq 40$  Years Old, Minia, Egypt.****Eman M. Mahfouz, Eman sameh and Eman F. Abd elrazak.**

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**Abstract**

**Background:** Breast cancer (BC) was the most common cancer in women worldwide, contributing 25.4% of the total number of new cases diagnosed in 2018, and approximately 7% of women with BC are diagnosed before the age of 40 years the BC in young females differ, so It need more attention.

**Aim:** To describe some clinical characteristics of BC in young females patient's  $\leq 40$  years old attending Minia oncology center. **Research hypothesis:** clinical characteristics of BC may differ in young females. **Subjects and methods:** This a cross sectional study was conducted included 100 women  $\leq 40$  years old attending Minia oncology center with BC. Subjects participating in the study filled in a questionnaire including questions about socio-demographic data, and medical data concerning BC. **Results:** the females enrolled in study 100 BC females  $\leq 40$  years old, and Mean age of the studied cases was  $33.5 \pm 3.8$ . The commonest complaint was lump, the most common stages was stage III and stage IV. With slightly high rate of metastasis and recurrence rate. About half is ER and PR positive and about 29% was triple negative. In females'  $\leq 40$  years had a progressive manner as the most common stages was stage III(37%)and stage IV (34%). About 13% had experience of recurrence, and metastasis was seen in 21% of studied females. **Recommendation;** There is a need to increase awareness about BC among younger women as this age group under presented , its serious consequences' and as well as establishment screening tools and programs is important to focus on BC in young women.

**Key words:** breast cancer, young women, cross sectional study, Minia.

**Introduction**

Worldwide, BC is the most frequent cancer among women, impacting over 1.5 million women each year (WHO, 2018). there was about 2.1 million newly diagnosed female BC cases in 2018, accounting for almost 1 in 4 cancer cases among women BC was the most common cancer in women worldwide, contributing 25.4% of the total number of new cases diagnosed in 2018. The top three breast, colorectal and lung cancers – contributed 43.9% of all cancers (excluding non-melanoma skin cancer) (global cancer statistics, 2018).

BC In Egypt is the most common cancer among women, representing 18.9% of total cancer cases (35.1% in women and 2.2% in men) (Omar et al., 2003). Among females the proportion of BC was 32.0% followed by liver cancer (13.5%) (Ibrahim et al., 2014).

BC in young women needs more attention as the number of cases is increasing (Gabriel et al.,

2010). Approximately 7% of women with BC are diagnosed before the age of 40 years. This disease accounts for more than 40% of all cancer in women in this age group (Anders et al., 2009). In US, of all diagnosed invasive BC cases about 2% under 50 years old represent 1-49 female have invasive breast cancer (Siegel et al., 2020).

Among adolescents and young adult (AYA) women, BC is one of the most frequently diagnosed malignancies, accounting for approximately 14% of all AYA cancer diagnoses and 7% of all BC (Gewefel et al., 2014). BC in AYA women more biologically aggressive disease, but aside from commonly known hereditary predispositions, little is still known about the underlying molecular genetic causes (Gewefel et al., 2014).

In Asia, BC incidence peaks among women in their 40s which are around 20 years earlier

compared to women from western countries (Agarwal et al., 2007). BC at younger age has been linked to genetic/hereditary factors (Narod, 2012).

In Egypt, incidence of BC in patients < 40 years old accounts for 20% of the total BC patients. But this young age considered as bad prognostic factor (Ibrahim et al., 2014).

Patients <40 years exhibited more often at advanced stage and large tumors size compared to patients ≥ 40 years; However, there was no significant difference in disease free survival (DFS) and overall survival (OS) when other risk factors were adjusted. On the other hand, age <40 years can be considered as an adverse prognostic factor for the loco-regional failure after breast conserving surgery (Ibrahim et al., 2014). Although some reports have identified young age at diagnosis as an adverse prognostic indicator (Gajdos et al., 2000). This could be ascribed to a combination of factors, including delayed presentation, advanced disease stage, and unfavorable tumor characteristics (Kimura et al., 2007).

**Research design and methods:**

**Study design:** This is a cross sectional study, which carried out in Minia governorate during the period from October 2018 to December 2019.

**Administrative and ethical consideration:** An approval was taken from the manager of Minia oncology center to obtain data about number of BC patients attending the center during the previous years and to facilitate the communication with personnel working in the center and with patients receiving treatment. Following the ethical guidelines of epidemiological research, a written informed consent was taken from each participant.

**Study population:**

**Selection of cases:**

**Inclusion criteria:** 100 primary BC females ≤ 40 years old receiving treatment in Minia oncology center during October 2018 to December 2019.

**Exclusion criteria:** Patients with a primary cancer rather than BC, severely ill patients. And female aged > 40 years old

**Collection of data:** Data were collected by a designed well-structured questionnaire including socio demographic data: age, residence, educational level, occupation and marital status and medical data concerning disease .

**Statistical analysis:** Data entry and analysis were all done with I.B.M. compatible computer using software called SPSS for windows version 2020. Quantitative data were presented by mean and standard deviation, while qualitative data were presented by frequency distribution.

**Results**

**Table (1): Frequency distribution of the studied subjects according to their age, Minia governorate, October 2018 to December 2019.**

		BC patients Total (100)
		N (%)
<b>Age</b>		25-40 33.5±3.8
<b>Age groups</b>	≤30 year	28(28)
	-31-35 year	38(38)
	-35-40 year	34(34)

**Table (2): Frequency distribution of the studied subjects according to their socio-demographic characteristics, Minia governorate, October 2018 to December 2019.**

Variable		BC patients (N)	Percentage
Residence	Rural	38	38
	Urban	62	62
Marital status	Single	7	7
	Married	88	88
	Widow	1	1
	divorced	4	4
Education	illiterate	7	7
	Read and write secondary	28	28
	43	43	
	University and higher	24	24
Occupation	House wife	64	64
	Clerical	26	26
	professional	10	10
Total		100	100%

**Table (3): Frequency distribution of the side and stages of BC in the studied females according to disease characteristics, Minia governorate, October 2018 to December 2019.**

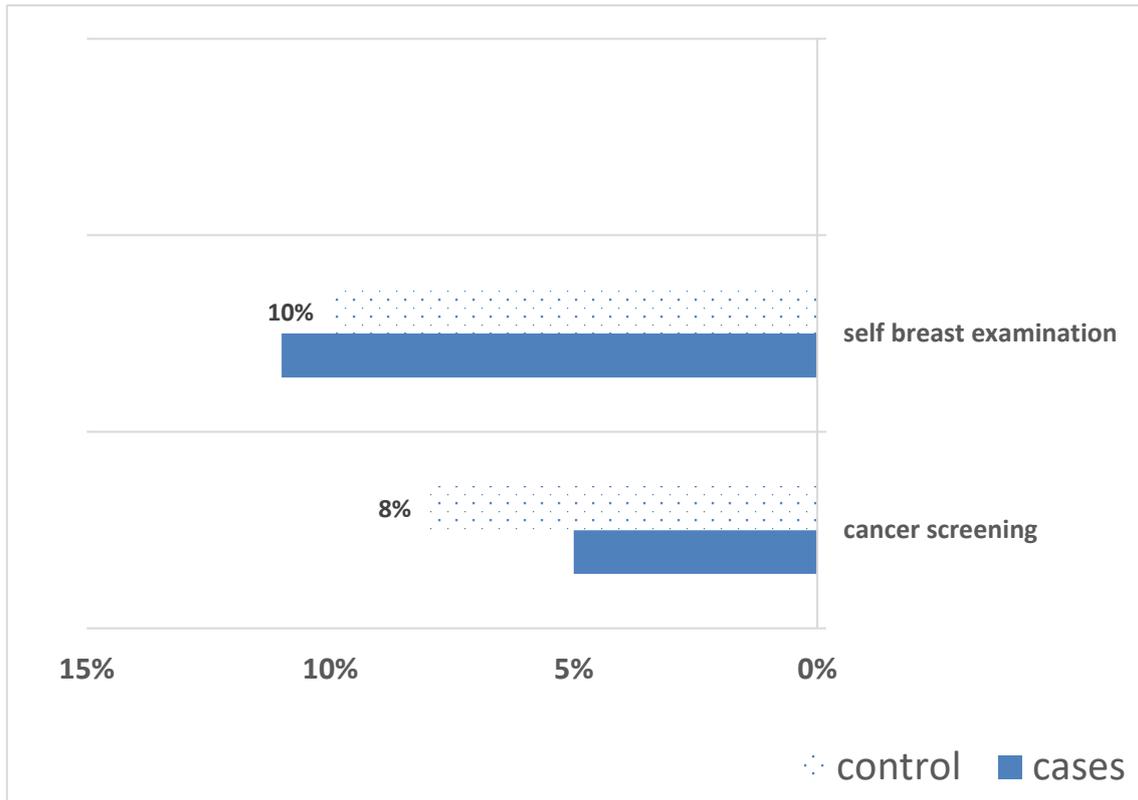
Variable		BC patients N	BC patients Percentage
Side	Rt	60	60
	Lt	40	40
Stages	I	12	12
	II	21	21
	III	37	37
	IV	34	34

**Table (4): frequency distribution of disease characteristics of the BC studied females according to disease characteristics, Minia governorate, October 2018 to December 2019.**

Disease characteristics		No	%	
Presentation	Lump	67	67	
	Pain	13	13	
	Secretion	12	12	
	Nipple retraction	3	3	
	Redness change in skin color	5	5	
Recurrence	Positive	13	13	
	In same breast	8	61.5	
	In other breast	5	38.4	
	Negative	87	87	
Hormone receptors	ER	Positive	61	61
		Negative	36	36
		unavailable	3	3
	PR	Positive	45	45
		Negative	52	52
		unavailable	3	3
	HER2	Positive	39	39
		Negative	58	58
		unavailable	3	3
	ER+PR+	43	43	
	ER+PR-	21	21	
	Triple negative	29	29	
	ER-PR-	7	7	

**Table 5: Frequency distribution of the studied BC patients according site of metastasis, Minia governorate, October 2018 to December 2019.**

variable		N	%
Secondaries	Present	21	21
	Absent	79	79
Site of metastasis	Brain	4	19
	Bone	7	33.3
	lung	5	23.8
	Liver	2	9.5
	Ovarian	3	14.3



**Figure (1): frequency distribution of self-breast examination and BC cancer screening among cases**

**Table (6): Frequency distribution of the studied subjects according to family history, Minia governorate October 2018 to December 2019.**

Family history	BC patients	
	N	%
Negative	77	77
Positive	23	23
First degree	11	47.8
Second degree	12	52.2

## Results

It was found that the age of studied females ranged between 25-40 years, and about 28% of BC patient lies in age group less or equal 30 years old.

Table 2 showed that 62% of BC patients from urban areas, 88% were married, 43% had secondary school and 64% were house wives.

About 60% of studied female patients had BC of the RT side. And more than third (37%) of studied female patients was stage III while 34% was stage IV.

In table 4, it was found that 67% of BC studied females were complaining from lump, and after resection about 13% had an experience of recurrence. Bilateral presentation had occurred only in eight females and metastatic presentation was shown in 21% females.

Regard hormonal receptor about 43% was estrogen and progesterone receptor positive, while 29% was triple negative.

About 11% of BC cancer females patient had done regular self- breast examination versus, while 5% of BC cancer females patient had done breast screening. It was found that that 23% of studied female patients had family history of BC.

## Discussion

This is a descriptive study was conducted to determine the clinical characteristics of BC among 100 BC patients aged 40 years old or less attending Minia oncology center during the period from December 2018 to Julie 2019.

The age was ranged between 25-40 years with mean  $33.5 \pm 3.8$ . These findings were in approximate with Farouk et al., (2016) who studied BC characteristics in very young Egyptian women less than 35 years, and found that the mean age was 31 years  $\pm 3$  standard deviation. Similarly Bouzid et al., (2014) who studied BC in woman younger than 35 years in Tunisia with mean age 31.3 years.

There was no information about family income of BC patients. Therefore, the level of education and occupation was used as proxies for

socioeconomic status. About 24% had university and higher. This was in approximate with Ghiasvand et al., (2011) who studied BC among south Iranian and concluded that 16.2% of cases educated as university education. And this also was in agreement with Ebrahimi et al., (2002) who found that Iranian BC women with university education were found in cases by 9.4%.

In current study about 38% of studied BC females was rural and 62% was urban, this was in coherence with Dey et al., (2010) who describe urban-rural differences in breast cancer incidence in Gharbiah, Egypt and found that overall, incidence rate of breast cancer was three to four times higher in urban areas than in rural areas.

In this study, most of BC studied females was educated. About 67% had secondary education and above, and 36% have a job. The increased risk in the educated may be explained by occupation, nulliparity, being older at first birth, and long-term use of OC.

Data in our study revealed that about 88% were married, 4% divorced and 7% single, This was in approximate with Ghiasvand et al., (2011) who found in his study about 82% were married and 7.5% divorced and 10.5% single. This was in agreement with what reported by Khadoura., (2017) who studied socio-demographic risk factors associated with BC in Gaza Strip and found that about 81% married and 13% divorced and 8% single. This also in approximate to what reported by with Farouk et al., (2016) who found that the marital status was single in 14.3%.

It was found in this study that 67% of BC studied females were complaining from lump and 13% presented by pain and 12% presented by nipple secretion. This was in coherence with Koo et al., (2017) who found that breast lump was the most frequent complaint (83%) followed by nipple abnormalities (7%) and breast pain (6%).

In current study, it was found that about 60% of studied female patients had BC of the RT side. This was in agreement with Farouk et al., (2016) who found that BC in Egyptian under 35 represented by 52.7% in right breast.

In this study more than one third (37%) of studied females patients was stage III, and 21 % had metastasis which was in agreement with Mutar et al., (2019) who studied pattern of presentation of patients with BC in Iraq and reported that about 42.9% of the patients were diagnosed with stage III and 25% with stage IV cancer, and metastasis was diagnosed in 24.1%, also this result was in line with Farouk et al., (2016) who found that metastatic presentation was shown in 14 patients. similarly Thangjam et al., (2014) who studied Breast carcinoma in young females below the age of 40 years in Manipur and stated that Stage III was the commonest stage in young women 47 compared with 18% in older

About 13% had experience of recurrence, And 5% in other breast side. This was in agreement with Norad, (2012) who revealed that very early age-of-onset al.,so correlates strongly with the risk of local recurrence and with the odds of contralateral BC.

Regarding hormonal receptor in this study about 61% was estrogen receptor positive and 45% progesterone receptor positive which in approximate with what reported by Farouk et al., (2016) that Estrogen receptor positive was 51% while progesterone receptor positive was 48.3%.

In our study about 11% of BC female's patient had done regular self- breast examination versus, while 5% of BC cancer female's patient had done breast screening. This can be explained by feeling secure and adoption waits and see approach. Beyond there was insufficient screening programs for younger women.

Family history is associated with BC risk ,near quarter (23%) of studied female patients had family history of BC, similarly to what was determined by Brewer et al., (2017) who found that Nearly a quarter of all BC cases are related to FH. These findings were in approximate with Farouk et al., (2016) who concluded that family history of cancer is a very strong risk factor for women under 35 years of age (OR = 3.22).

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