# Knowledge of Breast Cancer Patients regarding Side Effects of Chemotherapy at Rizgary Teaching Hospital in Erbil City - Iraq

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#### Abstract:

**Background and objective:** Breast cancer is the most common cancer in worldwide, both in developed and developing countries after skin cancer. There are 1, 38 million case of breast cancer are diagnosed among women, and 458000 cases die each year. Patients who were affected, and received chemotherapy faced some side effects which create burdens on themselves as well as their families. To mange and cope with those side effects and burdens knowledge and information about the disease and its effect is ultimately valuable. There for, this study is aimed to explore the level of knowledge of breast cancer patients about the side effects of chemotherapy.

**Methodology:** Quantitative / Cross-sectional method with a purposive sample was used, with a direct interview of the patients with breast cancer, who were received a chemotherapy at Rizgary Teaching Hospital. Questionnaires were made of 3 sections. Section A addressed socio- demographic characteristics which include; age, marital states, educational level, working states and disease stage at diagnosis. Section B addressed participants' knowledge on general side effects of chemotherapy and section C source of receiving information regarding side effects of chemotherapy. The data was analyzed by using Statistical Package of Social Science (SPSS) version (21).

**Results:** Seventy-two (72) patients were participated in this study in which age group (31-43) was high proportion (40.3%). In addition, more than half of participants (56.9%) were illiterate in terms of level of education. In addition, majority of them (87.5%) were housewives. This study finds out a strong relationship between level of education with information of participants regarding chemotherapy side effects ( $p \le 0.05$ ). Occupational status also has highly significant association with overall knowledge regarding the side effect of chemotherapy ( $P \le 0.01$ ).

**Conclusion, and Recommendation:** this study concluded that the participants in this study have had a satisfactory knowledge about side effects of chemotherapy. While, they had poor knowledge regarding side effects of chemotherapy on blood components, nervous system, skin and hair.

Nurse was the second source of delivering information regarding side effects of chemotherapy to that women who had been diagnosed with breast cancer. The relationships between the level of education and occupational status have delineated. Improving women with breast cancers' knowledge regarding side effects of chemotherapy is highly suggested though various of health educational program.

### Keywords: Knowledge, Breast cancer, Side effect, Chemotherapy

### **Background:**

Breast cancer is the most common cancers in worldwide, both in developed and developing countries after skin cancer (WHO, 2011; Mandal, 2016). There are 1,38 million case of breast cancer are diagnosed among women, and 458000 cases die each year (IARC, 2013; WHO, 2014). In Kurdistan Region - Iraq, breast cancer among women comes as 2<sup>nd</sup> cancer after hematological malignancies (18. 8 % of all cancer in female) (Ramadan et al., 2011).

Obviously, treatments of breast cancer are including surgery, chemotherapy radiation therapy, and immunotherapy and vaccine therapy. (NCI, 2014). However, chemotherapy agents most commonly used in breast cancer such as doxorubicin, cytoxan or taxotere (Kim et al, 2012). They are used to prevent recurrence of disease or improve palliation in advanced stage in order to relief symptoms such as pain relief, (Adenipekun et al., 2012).

In general, side effects of chemotherapy have been well identified The most common chemotherapy induced side effects are gastrointestinal disorder, bone marrow suppression, neuropathies, hair loss, sore eye, fatigue and skin disorder (Sun et al., 2005; Haghpanah et al., 2006; IARC, 2008; Ismail et al., 2011; Kim et al., 2012; Arslan., 2013).

A number studies has revealed that chemotherapy negatively affect the quality of life(QoL), in which alopecia is a distressing side effect and may consistently effect on QOL and body image (Crelle et al., 2002; Kayl and Meyers, 2006). Chemotherapy side effects depend on the amount of chemotherapy, length of the treatment as well as general health of the patients (Breast Cancer Organization, 2014).

Thus, in general, cancer patients need information regarding chemotherapy –related side effects. As provision of sufficient pre-chemotherapy information including side effects was proven to reduce certain physical symptoms (Arnada et al., 2012).

A study in Chinese breast cancer patients has concluded that side effects of chemotherapy was the higher priority among information demanded (Lee et a., 2012). In other words, Lack of information may lead increase uncertainty, anxiety distress and dissatisfaction and may negatively influence patients' treatment decision (Haghpanah et al., 2006).

To date, relatively little is known about knowledge of breast cancer patients regarding side effects of this agent. In addition, knowledge of breast cancer patients about chemotherapy induced adverse effects has not been fully assessed.

Therefore, the main objectives of this study are to explore the socio-demographic characteristics of breast cancer patients regarding side effects of chemotherapy during commencement of chemotherapy. Besides, this study will also identify the level of participants' information and their knowledge on side effects of this treatment. In addition, this study will determine association between the socio-demographic data and their level of information, or Knowledge.

### Methodology

A Quantitive /cross- sectional-method with purposive sample was used for conducting this study. It was carried out in the chemotherapy ward / oncology department at Rizgary Teaching Hospital in Erbil City of Iraq from 1<sup>st</sup> of May 2015 to 31<sup>st</sup> of December 2015.

To meet the objectives of the study, data were collected from women aged between 18 and 62 years old. Patients who were histological confirmed breast cancer including stage I, II, III or IV and registered for adjuvant systematic therapy, regardless of undergoing surgery were eligible for this study.

Chemotherapy clinic run from Saturday to Thursday except Friday; however, only two days Sunday and Wednesday were selected to interview patients. Patients were simply and randomly selected to participate in this study. Written informed consent was obtained from all eligible patients who meet the inclusion criteria and interested to involve in this study, and approximately 15 minutes for each patient in a private room in the ward.

Data were collected by researchers, using set of questionnaires. Content validity of the questionnaire was approved by related experts and its reliability was accepted with a score **(0.89).** The questionnaires were made of 3 sections. Section A addressed socio- demographic variables including age, marital states, educational level, occupational status and disease stage at diagnosis. Therefore, the sampling strategy incorporated elements of both convenience and purposive sampling. Section B addressed participants' knowledge on general side effects of chemotherapy and section C was about source of receiving information regarding side effects of chemotherapy. The data was analyzed by using Statistical Package of Social Science (SPSS) version (21).

#### Results

#### 1. Socio-demographic characteristics of the study sample

Regarding the age group, the highest percentage of the participants were in the age group of 31-43 years old (40.3%) and the lowest were 18-30 years old (12.5%). With respect to the marital status, most of the study samples were married (84.7%). In other words, more than half of the study samples were illiterate (56.9%). Regarding the occupational status, most of the study samples were housewife (87.5%). The highest percentage of the study sample was in second stage of the disease at diagnosis.

Socio-demographic characterist	Frequency	Percentage (%)			
	18-30	9	12.5		
Age group/years	31-43	29	40.3		
	44-56	17	23.6		
	57-69	17	23.6		
	Single	11	15.3		
Marital status	Married	61	84.7		
Marital status	Widowed	0	0		
	Divorced	0	0		
	Illiterate	41	56.9		
	Primary school	11	15.3		
Educational level	Secondary school	7	9.7		
	High school	7	9.7		
	Institute /	6	8.3		
	University	0	0.5		
	Housewife	63	87.5		
Occupational status	Employed	6	8.3		
	Self-employed	0	0		
	Unemployed	3	4.2		
Disease stage at diagnosis	Stage 0	6	8.3		
	Stage I	14	19.4		
	Stage II	25	34.7		
	Stage III	21	29.2		

 Table 1: Socio-demographic characteristics of 72 study sample

# 2. Knowledge of breast cancer patients regarding gastro - intestinal side effects of chemotherapy

In the table (2), knowledge regarding some of the affected system during chemotherapy is delineated.

# Table 2: Knowledge of the breast cancer patients regarding the systematic side effects chemotherapy

Systems of the body		Scale Score				Total		
	I	Poor Fair		Good		F	%	
	F	%	F	%	F	%		
Gastrointestinal System	19	26.4	38	52.8	15	20.8	72	100
Urinary tract	58	80.6	8	11.1	6	8.3	72	100
Skin and Hair	38	52.8	31	43.1	3	4.2	72	100
Blood vessel, and Blood component	72	100	0	0	0	0	72	100
Nervous System	14	19.4	43	59.7	15	20.8	72	100

Table (2) revealed that more than half of the study sample had fair knowledge regarding gastro - intestinal side effects of chemotherapy (52.8%). A poor knowledge (80.6%) regarding Urinary tract side effects was seen. In addition, more than half (52.8%) of the breast cancer patients had poor knowledge, regarding skin and hair side effects of chemotherapy. Furthermore, an acceptable knowledge regarding blood vessel, blood component, and nervous system side effects was noted. The proportion of them was 72%, and 59.7% respectively.

# **3.** Overall knowledge of breast cancer patients regarding all side effects of chemotherapy

Regarding the overall knowledge of participants in Table 7 showed that more than half of the participants had fair knowledge regarding the side effects of chemotherapy (54.2%), while 44.4% of them had poor knowledge.

# Table 7: Knowledge of 72 breast cancer patients regarding all side effects of chemotherapy

Overall Knowledge	Frequency	Percentage (%)
Poor	32	44.4
Fair	39	54.2
Good	1	1.4
Total	72	100

# 4. Source of information about side effects of chemotherapy among breast cancer patients.

Table 8 found that 65.3% of the participants were getting knowledge about side effects of chemotherapy and more than half of participants were informed by their Physician (55.6%), followed by family members and nurse 4.2 and 2.8 respectively.

Table 8: Source of information	about side	effects of	chemotherapy	among 72	2 breast
cancer patients.					

Source of information	about side effects of	Frequency	Percentage (%)		
chemotherapy					
Informed	No	25	34.7		
Informed Yes		47	65.3		
	Nurses	2	2.8		
	Physician	40	55.6		
Source	Herself	2	2.8		
	Family member	3	4.2		
	Friends	0	0		

# 5. Association between sociodemographic characteristics of the breast cancer patients and overall knowledge regarding all side effects of chemotherapy.

Table 9 showed that there was very highly significant association between overall Knowledge regarding all side effects of chemotherapy and Occupational status (p=0.001), and it's significant with Educational level of the participants (p=0.050). But there was non-significant

association between overall Knowledge regarding all side effects of chemotherapy and Age group, marital status, and Disease stage at diagnosis (p=0.270, 0.365, 0.683 respectively).

Table 9: Association between socio-demographic characteristics of the 72 breast cancer
patients and overall knowledge regarding all side effects of chemotherapy.

Overall Knowledge Socio-demographic data		Poor	Fair	Good	P-Value of Chi- square Test	
		F	F	F		
Age group/years	18-30	6	3	0	0.270 NS	
	31-43	8	20	1		
	44-56	8	9	0		
	57-69	10	7	0		
Marital status	Single	7	4	0	0.365*	
	Married	25	35	1	NS	
	Widowed	0	0	0		
	Divorced	0	0	0		
Educational level	Illiterate	20	21	0	0.050*	
	Primary school	3	8	0	S	
	Secondary school	5	2	0		
	High school	3	3	1		
	Institute / University	1	5	0		
Occupational status	Housewife	29	34	0	0.001*	
-	Employed	0	5	1	VHS	
	Self-employed	0	0	0		
	Unemployed	3	0	0		
Disease stage at diagnosis	at Stage 0	4	2	0	0.683*	
	Stage I	7	7	0	NS	
	Stage II	8	16	1		
	Stage III	9	12	0		
	Stage IV	4	2	0		

\* Fishers Exact Test

# **Discussion:**

The present study highlighted that the age group (31-43) years old were (40.3%), while 18-30 years old group recorded the lowest proportion (12.5%) with the mean age of participant is (42±). This is not comparable with other studies which were done in the regional and other countries worldwide. For instance, in a study which was done in Gaza/Palestine for health promotion of patients with breast cancer, the highest proportion (44%) was in the (50-55) years old (Alhamss et al., 2014). In another study that was undertook in Bahrain which measured the quality of life of Bahraini women with breast cancer, showed that the mean ages of participants were (50.2 ± 11.1) with highest level in age group ( $\leq$ 50) years old (Jassim and

Whitford, 2013) . However, in a study which was done in South Korea, age group of (45-49) years old were more affected ( Oh et al., 2016) but in UK, and USA the most prevalent age of breast cancer were above 50 years old ( DeSantis et al., 2015 ; Woods et al., 2016) In addition, in Japan and China breast cancer was common in the age of over 50 years old (Toyoda et al., 2016; Wen et al., 2016). In a study which was carried out in Nigeria among patients with breast cancer, the majority of them (43%) was in (50-59) years old (Adenipekun et al., 2012)

Based on the findings of the above studies, in comparison with the findings of this study; the younger age group (31-43) is more at risk of getting breast cancer. This is needed to be highly considered.

Regarding marital status showed the majority of them 84.7% participants were married, whereas unmarried participants were (16.3%). In a study which was done in Iran, reveals that married women were more affected in comparison with unmarried (Giasvand et al., 2011). While, the mortality rate among unmarried is high that married elderly women (Osborne et al., 2005)<sup>•</sup> More than half of participants 56.9% were illiterate in terms of level of education. In addition, a large number of them 87.5% were housewives.

However, the findings of this study clearly revealed the strong relationship between some of demographic characteristics of participants in which the level of education significantly has an association on knowledge regarding chemotherapy side effects ( $p \le 0.05$ ). Occupation also has high significant association with overall knowledge regarding the side effect of chemotherapy ( $P \le 0.01$ ) as detailed in the table (9), whereas, other variable did not have relation with knowledge of participants regarding side effects of chemotherapy.

With respect to course of receiving chemotherapy, majority of the participants in the study were prescribed more than one courses of chemotherapy. In other words, II stage of breast cancer was the most common stage 34.7% among participant's women of breast cancer patients.

Regarding knowledge of the participants toward side effects of chemotherapy, it was various from one system to another system of the human body. Majority of them stated that they have an adequate knowledge about gastrointestinal and nervous system side effects of chemotherapy 73.6%, and 80.5% respectively. In contrast, a study has found that breast cancer patients' awareness regarding melena and mouth ulcer were 17.50 % and 27.50 % respectively (Haghpanah et al., 2006).

While, there were poor and inadequate knowledge have been noticed among participants regarding negatives effects of chemotherapy on blood vessel, and blood components 100%, urinary tract 80.6 % as well as skin and hair 52.8%. While Haghpanah et al. (2006) introduced in their study that majority of participants 87.50 % were aware that chemotherapy may lead to lose of hair and red urine (30 %). On the other hand, the same study has found breast cancer patients had inadequate knowledge on chemotherapy inducing dysuria 10 % and kidney stone 2.5 % respectively.

Overall, knowledge of the participants regarding potential side effects of chemotherapy on some particular systems was within acceptable score in which 54.2%.

In other words, this study has revealed that 65.3% of participants were informed by physician (55.6%), followed by nurse (2.8%) regarding possible side effects of chemotherapy, followed themselves 2.8% and family members 4.2% .regarding . This is

contradicted to a study which was done by Haghpanah et al. (2006) and found that 18 % of breast cancer patients were educated by nurse, 82 % by themselves and 0 % by physician. However, it is one of the main tasks of medical staff to increase women with breast cancer regarding potential side effects of chemotherapy and reducing negative consequences of chemotherapy treatments.

# **Conclusion:**

The current study concluded that approximately more than half of the participants have acceptable knowledge about potential side effects of chemotherapy, while their understanding need to be increased regarding negative effects of chemotherapy on blood components, urinary tract infection, skin and hair. Most of the participants were informed by doctors regarding side effects of chemotherapy. Moreover, the strong relationships between the level of education and occupation have delineated.

# **Recommendation**:

the educational booklet, brochure, and educational programs about the side effects of chemotherapy are strongly suggested. Thus, Educational program will be an effective strategy to cope with side effects of chemotherapy.

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زانیاری نەخۆشی تووش بوو به شیرپەنجەی مەمک دەربارەی ماکە لاوەکیەکانی چارەسەری کیمیاوی لە نەخۆشخانەی فیرکاری پزگاری له شاری ھەولیر – عیراق

#### <u>پوخته:</u>

پاشخان و ئامانجەكانى تويزرينەوە: نەخۆشى شيرپەنجەى مەمك يەكيكە لە باوترين نەخۆشيەكانى شيرپەنجە لەدواى شيرپەنجەر پيست، لە ولاتانى پيشكەوتوو و تازە پيكەيشتوو. سالانە لە نيّو ئافرە (١.٣٨) يەك مليۆن و سى و ھەشت ھەزار كەس دووچارى ئەم نەخۆشيە دەبن، (٤٥٨٠٠) چوار صەد و پەنجاو ھەشت ھەزار كەس دەمرن. ئەو نەخۆشانەى دووچارى ئەم نەخۆشيە دەبنم چارەسەرى كيمياوى وەردەگرن، بەلام چەند نيشانەيەكى كە دواتر دەبيّت بە نارحەتى بەسەر خۆيان وخانەوادەكەيانەوە. بۆيە، بۆ چارەسەركردن وخۆ گونجاندنى نەخۆشەكە، گرنگە ئاستى زانيارى نەخۆشە دەربارەى نەخۆشيەكە و ماكە لاوەكيەكانى بزانريّت.

بۆيە ئەم توێژينەوەيە ئامانجى ئەوەيە كە ئاستى زانيارى ئافرەتى تووش بوو بە نەخۆشى شێرپەنجەى مەمك بزانێت دەربارەى ماكە لاوەكيەكانى چارەسەرى دەرمانى كيمياوى.

### ميتۆدى تويزينەوە:

میتۆدی چەندایەتی/ بەشیک تویزینەوەکە بە کارھات، بەشیوەی بینین و پرسیارکردنی راستەوخۆ لەگەڵ ئافرەتی تووشبوو بە نە جۆشی شیرپەنجەی مەمک کە چارەسەری کیمیاوی وەردەگرن لە نەخۆشخانەی فیرکاری رزگاری لە شاری ھەولیر – عیراق.

فۆرمى پرسىياركردنى توينژينەوەكە لە سى بەش پېك ھاتبوو.

بەشى يەكەم، پيكھاتبوو لە زانيارى دەربارەى تەمەن و بارى خيرانى و ئاستى پەروەردەى و جۆرى كار و قۆناغى نەخۆشى نەخۆشەكە لەكاتى دەست نيشانكردنى نەخۆشيەكەى بەشى دووەم، پيكھاتبوو لە زانيارى نەخۆشيە بەشداربووەكاندەربارەى ماكە لاوەكيەكانى چارەسەرى كيمياوى، وە بەشى سى يەميش پيكھاتبوو لەو سەرچاوانەى كە نەخۆش زانيارى لى وەردەگريت دەربارەى ماكە لاوەكيەكانى چارەسەرى كيمياوى.

بۆ مەبەستى شىكردنەوە و ھەلسەنگاندنى زانياريەكان بەرنامەى پاكێجى ژميٚريارى بۆ زانستى كۆمەلايەتى ژمارە ٢١ بەكارھاتووە.

### <u>ئەنجام:</u>

بق ئەنجامدانى ئەم تويّژينەوەيە حەوتا و دوو (٧٢) نەخۆش ئارەزووى خۆيان پيشاندا كە كە بەشداربن ، كە تەمەنيان لە نيّوان ٣١ – ٤٣ بوو كە ٤٠.٣ % . لەگەل ئەمەشدا،ئاستى نە خویندهواری له نیوه ۵٦.۹ % زیاتر بوو له نیو به شدار بووان. ههروهها، ژمارهیه کی زوّری به شداربووان ۵۷.۹ % ئافره تی ماله و بوون.

لهم تویّژینهوه یهدا، پهیوهندیهکی بههیّز دۆزرایهوه له نیّوان ئاستی خویّندهواری و زانیاری نه خوّشه بهشداربووهکان دهربارهی ماکه لاوهکیهکانی چارهسهری کیمیاوی به قیمهتی پی زیاتر و گهورهتر له ...٥. ههروه جوّری کاری نهخوّشهکان پهیوهندیهکی بههیّزی ههیه لهسهر تهواوی زانیاری نهخوّشه بهشداربووهکان دهربارهی ماکه لاوهکیهکانی چارهسهری کیمیاوی به قیمهتی پی زیاتر و گهورهتر له ...٥.

دەرئەنجام و پېشىنيار:

هەرچەندە لەم توێژینەوەیە ئەو بەدەست ھاتووە كە نە خۆشیە بەشداربووەكان زانیاریان باشە دەربارەى زۆربەى ماكە لاوەكیەكانى چارەسەرى كیمیاوەى. بەلام لەلایەكى ترەوە، زانیاریان زۆر لاوازە دەربارەى كارى گەریە سلبیەكانى چارەسەى كیمیاوى لە لەسەر پێكھاتەكانى خوێن و كۆئەندامى دەمار و پێست و موو (قژ).

هەروەها لیکولینەوەى ئەم تویزینەوەیە دەرى خستووە كە پەرستارى بە سەرچاوەى دووەم دیت كە ئافرەتى تووش بوو بە نەخۆشى ناوبراو زانیارى لیوەردەرگریت دەربارەى ماكە لاوەكيەكانى چارەسەرى كیمیاوى . لە كۆتایدا، ئەم تویزینەوەیە پیشنیارى ئەوەى كردووە كە پیویستە زانیارى نەخۆش دەربارەى ماكە لاوەكیەكانى چارەسەرى كیمیاوى بدریت تەندرووستى بە ئافرەتى تووش بوو بە نەخۆشى بە شیرپەنجەى مەمك لە ریگایى پرۆگرامى پەروەردەى تەندرووستى. معرفة مريضات سرطان الثدي بخصوص الاثار الجانبية للعلاج الكيمياوي في مستشفى رزكاري التعليمي في مدينة اربيل –العراق.

الخلاصة

الخلفية والاهداف: سرطان الثدي هو من اكثر انواع السرطان شيوعا في العالم من بعد سرطان الجلد، في كلتا الدول النامية و المتقدمة. هنالك 1و38 مليون حالة سرطان الثدي مشخصة بين النساء، و 458000 حالة وفاة كل عام بسبب المرض. المريضات المصابات، والخاضعات للعلاج الكيمياوي يواجهنه بعض الاعراض الجانبية والتي تسبب اعباب عليهن وعلى عوائلهن. لغرض معالجة والتغلب على مشكلات الاعراض الجانبية واعبائها معرفة م معلومات المريضات عن الاثار الجانبية ذات قيمة جوهرية. لذالك استهدفة الدراسة الى الكشف عن مستوى معرفة مريضات سرطان الثدي بخصوص الاثار الجانبية للعلاج الكيمياوي.

**المنهجية**: دراسه كمية/ استقطاعية اعتمدة على المقابلة المباشرة مع المريضات المصابات بالمرض، والخاضعات للعلاج الكيمياوي في مستشفى الرزكاري التعليمي. تالفة الاستمارة الاستبانية من 3 فقرات. فقرة ا بخصوص المتغيرات الاجتماعية و السكانية مثل العمر، الحالة الزوجية، المستوى التعليمي، المهنة مسنوى المرض عند التشخيص. الفقرة ب بخصوص معرفة المريضات عن الاثار الجانبية للعلاج الكيمياوي و فقر ج بخصوص مصادر اخذ المعلومات عن الاثار الجانبية للعلاج الكيمياوي. تم تحليل البيانات بواسطة احصاء حزمة العلوم الاجتماعية.

النتائج: اثنان وسبعون (72) مريضة شاركة في هذة الدراسة اعمارهن (31–43) كانت النسبة الاعلى (40.3%) اكثر من نصف المشاركات (56.9) كانت امية بالاضافة على ان النسبة الاعلى كانت (87.5%) كانت ربات البيوت . الدراسة اوجدة علاقة قوية بين مستوى الثقافي والمستوى المعرفي للمريضات بخصوص العلاج الكيمياوي (0.05≥P) والمهنة كانت على علاقة معنوية مع المعرفة العمومية للاثار الجانبية للعلاج الكيمياوي (0.01≤P)

**الاستنتاجات والتوصيات**: استنتجت الدراسة بان المشتركات في الدراسة لديهن معرفة مرضية بخصوص الناثيرات الجانبية للعلاج الكيمياوي. بينما لديهن معرفة فقيرة بخصوص الاثار الجانبية للعلاج الكيمياوي و على مكونات الاساسية للدم و الجهاز العصبي و الجلد والشعر. الممرضيين هم المصدر الثاني للمعرفة بخصوص التاثيرات الجانبية للعلاج الكيمياوي للنساء المشخصات بمرض سرطان الثدي. العلاقة وصفة بين المستوى التعليمي و المهني. تحسين معرفة النساء المصابات بالمرض بخصوص التاثيرات الجانبية للعلاج الكيمياوي مقترحة وبقوة من خلال برنامج الثقافة الصحية الكثيرة.

المفردات الرئيسية: المعرفة، سرطان الثدي، الاثار الجانبية، العلاج الكيمياوي.