

Study on current therapeutic management of breast cancer in hospital and university clinical service of Kosovo



Valon Ejupi¹, Leonora Demiri², Bujar Qazimi¹, Shpend Dragusha¹

¹Faculty of Pharmacy, UBT College - Higher Education Institution, Lagjia Kalabria, 10000 Pristina, R. of Kosovo

²Faculty of Nursing, UBT College - Higher Education Institution, Lagjia Kalabria, 10000 Pristina, R. of Kosovo

Introduction

Breast cancer is the leading type of cancer - approximately 1 in 8 women diagnosed with breast cancer. Most common cause of cancer-related death in women worldwide.

Effective treatments are highly required. Progress is made in early detection, screening and treatment, resulted in 5-year survival rate of approximately 80%, 60% and 40% for high, middle and low income countries, respectively.

General national cancer control plans for confronting breast cancer may consist of:

- **Prevention**
- **Screening and early detection**
- **Diagnosis**
- **Treatment (surgery, radiotherapy, chemotherapy and hormone therapy)**
- **Palliative care**

Usually treated with chemotherapeutic drugs. **Problems:** resistance developments, side effects and the reoccurrence of the disease. These drugs can be given as single agent or used as multiple-drug regimens.

Combination therapy advantages:

- **Better efficacy**
- **Dose reduction while increasing or maintaining efficacy, decreasing toxicity and reduced or delayed development of drug resistance**

Common side effects of the chemotherapy:

- **Nausea and vomiting**
- **Neuropathy**
- **Constipation**
- **Diarrhea**
- **Trouble breathing**

The purpose of this study - Assess most frequently pharmaceutical agents used in chemotherapy, effectiveness and their side effects.

Material and methods

- ◆ **Cross-sectional survey** from January to December 2021.
- ◆ Questionnaire was developed based on latest literature (specifically published by the WHO, UBT-college, National Institute of Public Health and Ministry of Health).
- ◆ In our study participated **20 doctors - oncologist and 50 patients** with breast cancer. Doctors and patients in hospital and university clinical service of Kosovo assessed for the therapeutic management of breast cancer chemotherapy

The questionnaire included 15 questions, divided in four sections:

1. Patients' demographics, such as:
 - **Working status**
 - **Gender and age**
 - **Marriage status**
2. Medical management domain related to breast cancer:
 - **Constant chemotherapeutic agents**
 - **Most frequent combinations of drugs**
 - **Common side effects**
 - **Actions taken if any side effect occurs**
3. Information domain with open-ended questions and multiple-choice questions:
 - **Where the treatment takes place**
 - **Recommendation for the patients**
4. Patients sphere with open-ended questions and multiple-choice questions:
 - **Detection age of breast cancer**
 - **Stage of cancer when the treatment started**
 - **Chemotherapeutic agent(s) and its/their effect(s)**
 - **Common side effects from therapy**
 - **Action taken by patient if any side effect occurred**

Survey design had advantages of capturing responses from individual personnel covering an extensive geographical range.

Results and discussion

In the year of 2021 in hospital and university clinical service of Kosovo, 398 new cases with breast cancer were reported.

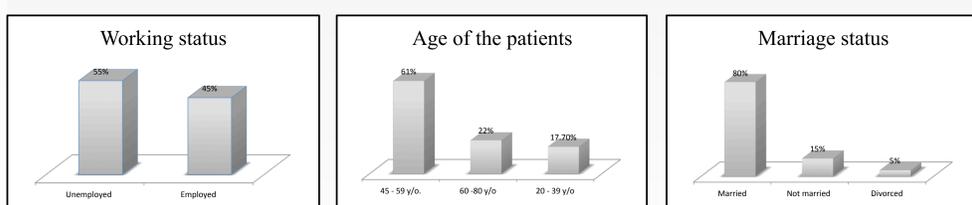


Fig. Patients' demographics

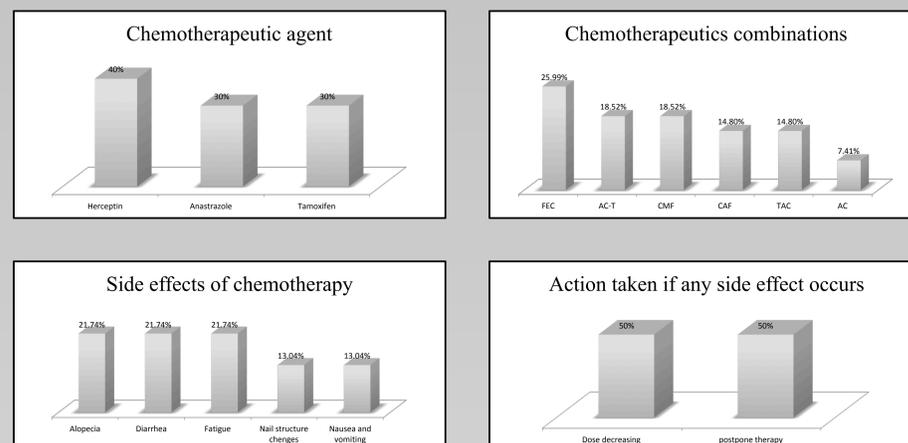


Fig. Medical management domain related to breast cancer:

In all the cases:

- **Parenteral treatment was conducted just in hospital**
- **Oral therapy at home, if applicable**

Apart of strict chemotherapeutic regimen, patients were recommended for:

- **More physical activities**
- **Abstaining from alcohol and smoking**
- **Consumption of fruits and vegetables**
- **Using food low in fat**

- ◆ **We found that in 50% of cases breast cancer was detected at age of 40-59.**
- ◆ **Patients in our survey concluded that the therapy has had positive impact.**
- ◆ **From chemotherapy, 26% of patients reported depression as side effect**

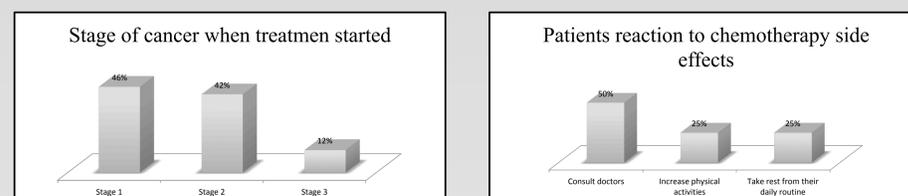


Fig. Patients sphere:

Conclusions

- Drugs used as chemotherapeutic agents for treating breast cancer are included in essential list in Kosovo.
- During our study, sufficient amount of drugs were in clinics, with some delays in few cases.
- First line single agent in chemotherapy was herceptin, followed by anastrozole and tamoxifen.
- Furthermore, combination therapy was part of treatment strategy, led by FEC and followed by AC-T, CMF, CAF, TAC and AC.
- Adjuvant breast cancer therapy may cause long-lasting physical, psychological, and social impairments in most patients, extent of which depends on age, type of surgery, and the type of systematic treatment. Identification and targeted therapy of these impairments must form an integral part of high-quality post-treatment care.

References

- Li, Y., Li, S., Meng, X., Gan, R.Y., Zhang, J.J., Li, H.B., 2017. Dietary natural products for prevention and treatment of breast cancer. *Nutrients*, 9 (7), DOI: 10.3390/nu9070728
- Kamaruzman, N.I., Tiash, S., Ashaie, M., Chowdhry, E.H., 2018. siARNs targeting growth factor receptor and anti-apoptotic genes synergistically kill breast cancer cells through inhibition of MAPK and PI-3 kinase pathways. *Biomedicine*, 6(3), DOI: 10.3390/biomedicine603007310
- Berumen, A.V., Mayo, G.J., Rodriguez, N.M., Ilbawi, A.M., Migliore, A., Shulman, L.N., 2018. Defining priority medical devices for cancer management: a WHO initiative. *Lancet Oncol.* 19(12), DOI: 10.1016/S1470-2045(18)30658-2.
- Chen, L. and Li, C.I., 2015. Racial disparities in breast cancer diagnosis and treatment by hormone receptor and HER2 status. *Cancer Epidemiol. Biomarkers Prev.* 24(11), 1666-72. DOI: 10.1158/1055-9965.epi-15-0293.
- Ouyang, L., Luo, Y., Tian, M., Zhang, S.-Y., Lu, R., Wang, J.-H., Kasimu, R., Li, X., 2014. Plant natural products: from traditional compounds to new emerging drugs in cancer therapy. *Cell Prolif.* 47(6), 506-15. DOI: 10.1111/cpr.12143.

Abbreviations:

- **FEC** (fluorouracil + epirubicin hydrochloride + cyclophosphamide)
- **AC-T** (doxorubicin hydrochloride + cyclophosphamide + palitrixel)
- **CMF** (cyclophosphamide + methotrexate + fluorouracil)
- **CAF** (cyclophosphamide + doxorubicin hydrochloride + fluorouracil)
- **TAC** (docetaxel + doxorubicin hydrochloride + cyclophosphamide)
- **AC** (doxorubicin hydrochloride + cyclophosphamide)