

Market Potential opportunity of Anti-Cancer Drugs in India and Competitive Analysis of Getwell's Oncology drug

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Objective

1. To study the potential of domestic oncology market

- **Scope of study:**
- To study the domestic oncology market.
- To find out the geographic wise cancer pattern in India.

2.To study the competitive analysis of Getwell Oncology Product in India (Delhi)

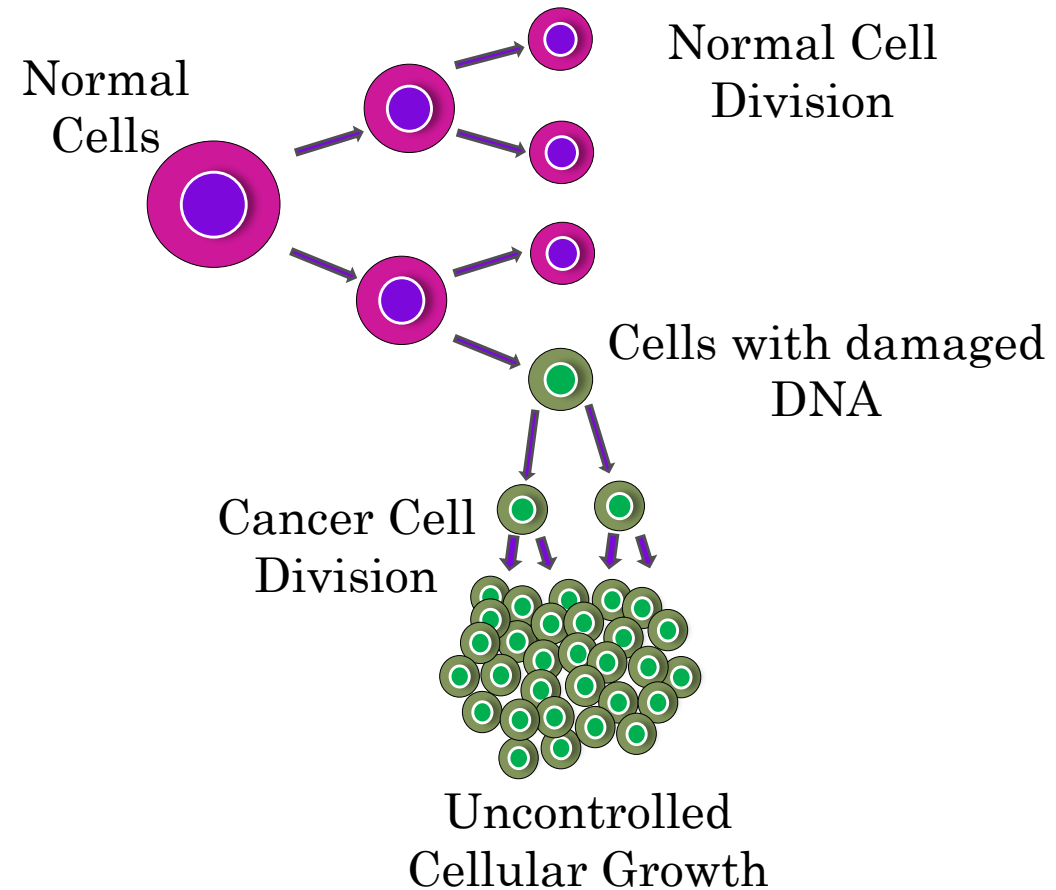
- **Scope of study:**
- To study the Doctor's awareness about the currently used Getwell's Oncology products.
- Effect of the attributes such as availability, affordability etc. on the prescription pattern.
- To examine the level of satisfaction among doctors for currently available Getwell's oncology product.

Literature Review

1. [Jyothi Chakrabarty,2017] In his research article on topic “**Economic Burden of Cancer in India**”. This study was focused on how increase in incidence of cancer affecting the person living with cancer and their families both direct and indirect cost. A comprehensive literature search was done on Pubmed, Google scholar etc and data were analysed according to the objective. The results revealed that the person living with cancer and their families experience significant economic burden, and burden is more in persons with advanced stage of the disease, people living in rural area and those who belong to low socioeconomic status.
2. [Mohandas K Mallath, David G Taylor,2014] In this research article topic on **The growing burden of cancer in India: epidemiology and social context**. This study was focused on cancer incidence and mortality rate according to regional variation and this study revealed that The burden of cancer in India is intimately linked to the country’s major socioeconomic inequalities in access to health care and other areas. Rebalancing of the distribution of power, social goods, and resources will be a crucial determinant of how India will address its cancer burden in the long term. Failure to address social inequalities reduces survival and can needlessly increase the costs of cancer to individuals and Indian society as a whole

Introduction of Cancer

- Uncontrolled Proliferation of Cells, which Is:
 - Progressive
 - Purposeless
 - Parasitic
 - Regardless of surrounding tissue
 - Not related to needs of the body



Chemotherapy

- Use of any cytotoxic drug or their combination
- Cytotoxic : kill cells usually by disrupting essential normal functions of proliferating cells
- CLASSIFICATION-
 1. Alkylating Agents
 2. Antimetabolites
 3. Anthracyclines
 4. Plant alkaloids
 5. Antineoplastic Agents
 6. Topoisomerase Inhibitors
 7. Kinase Inhibitors
 8. Hormonal Therapeutic Agent
 9. Others

Cancer Statistics in India

- Estimated number of people living with the disease: around 2.25 million
- Every year, new cancer patients registered: Over 11,57,294 lakh
- Cancer-related deaths: 7,84,821
- Risk of developing cancer before the age of 75 years-

Male: 9.81%

Female: 9.42%

Total deaths due to cancer in 2018 [8]

- Total: 7,84,821
- Men: 4,13,519
Women: 3,71,302
- Risk of dying from cancer before the age of 75 years is 7.34% in males and 6.28% in females

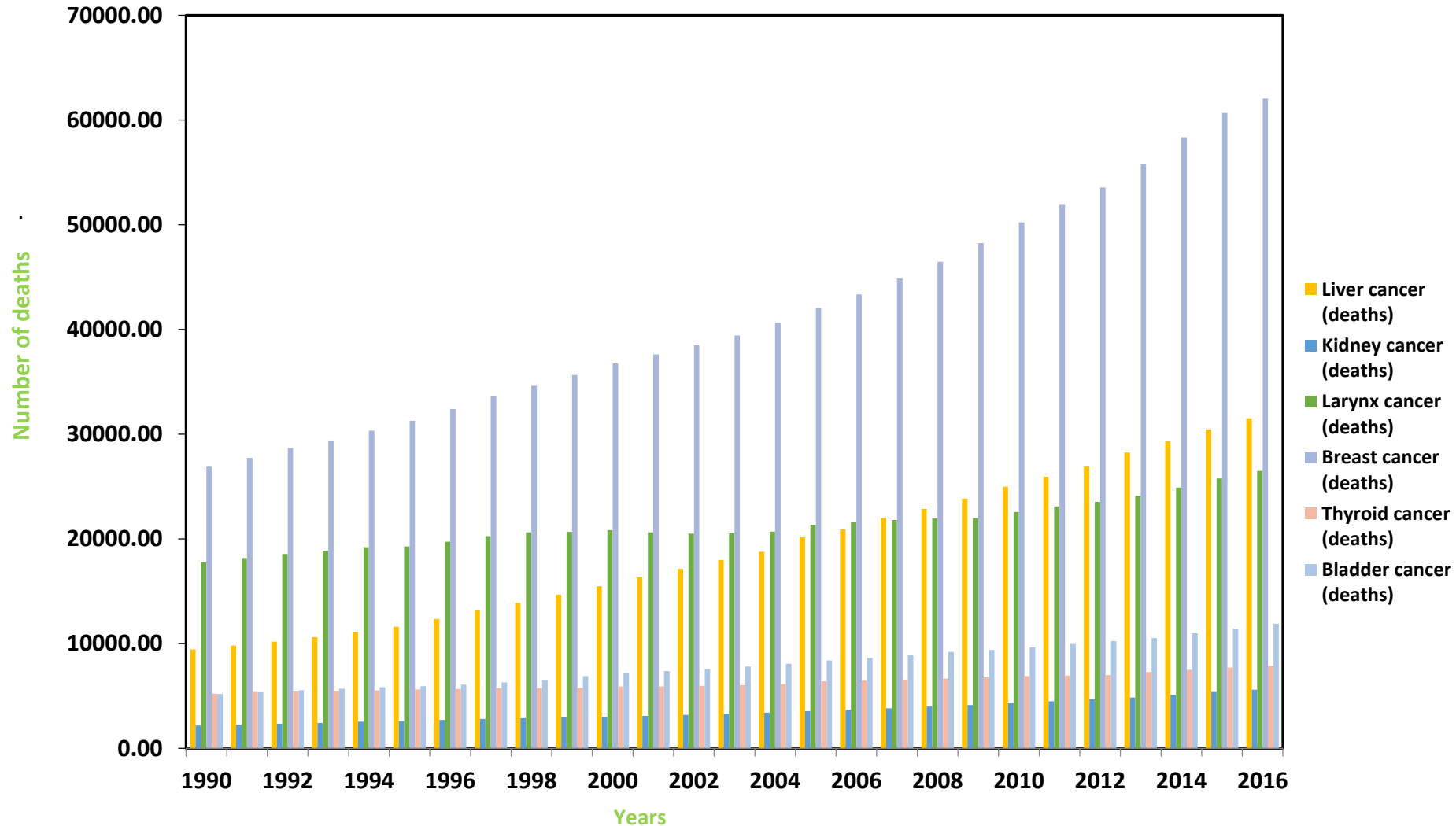
Problem statement

- Even with the major diagnostic and therapeutic advances, Cancer is still one of the leading cause of death in India.

Research Methodology

- Study Design: Descriptive study
- Sampling: Non-probability, convenience sampling
- Target respondents: Oncologists from various govt. and private hospitals.
- **Sample Size: Number of doctors: 71**
- Sample area: Delhi
- **Tool: Questionnaire to collect primary data, Microsoft Excel and SPSS for analysis**
- Data Collection: Primary- Through questionnaire and meeting with respondents
- **Study duration: 3 Month**
- Data Collection Tool: Secondary Data collected (Company Annual Reports, various research articles and publications). Data was triangulated using both primary and secondary approach.

Results

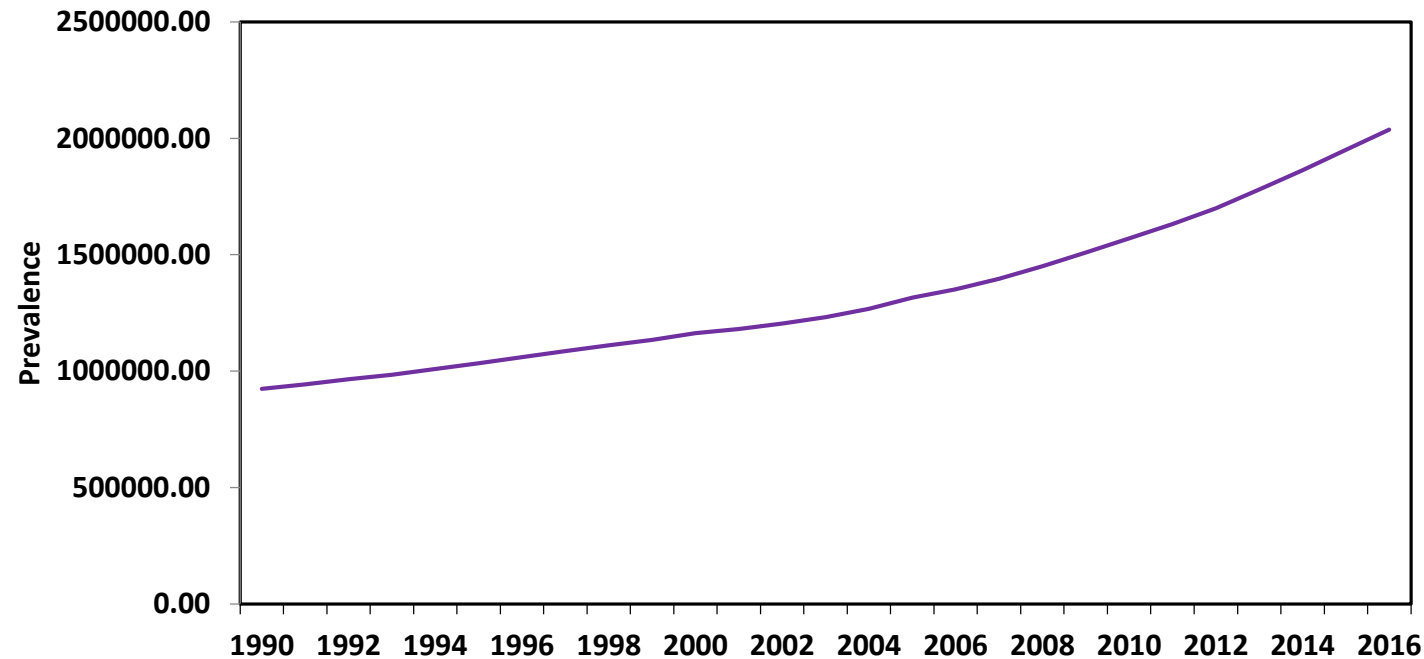


We can interpret that the majority of deaths is due to breast cancer and has increased every year followed by death due to liver cancer that can be seen in most of the recent years but from 1990 to 2006 there is a continuous decrease in the cases of death from larynx.

Discriptive statistics of Count of cancer cases in different age group

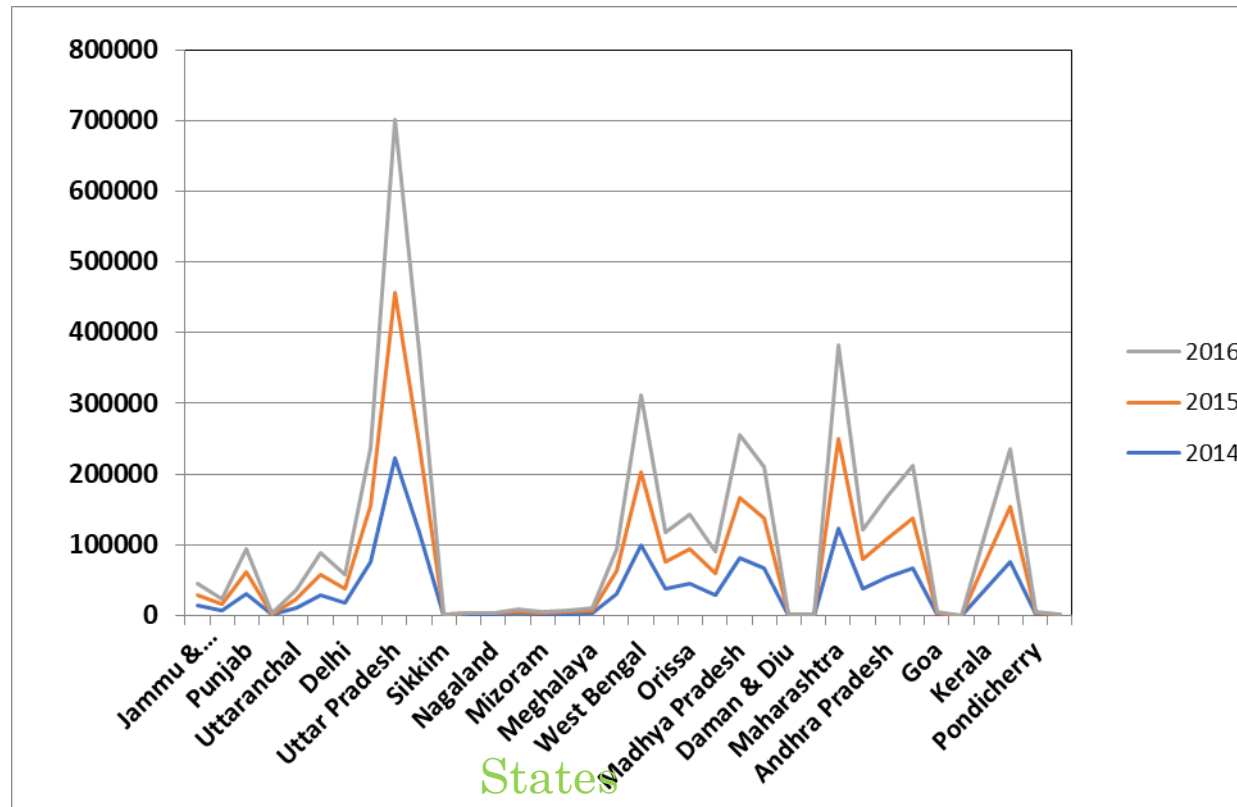
Age	N	Range	Minimum	Maximum	Mean	Std. Deviation
Age group (<5)	27	7030.91	12293.09	19324.00	16176.1919	2003.78
Age group (5-14)	27	6197.04	14851.27	21048.31	18036.53	2163.78
Age group (15-49)	27	262053.88	267674.47	529728.36	373091.89	74931.86
Age group (50-69)	27	577436.30	467409.73	1044846.03	661215.08	169689.93
Age group (>70)	27	284816.63	150282.79	435099.42	259404.33	86121.70

This graph shows an increasing trend of prevalence where year 1990 having lowest prevalence rate of 924457(approx.) and 2016 having the highest prevalence of 2036818(approx.)



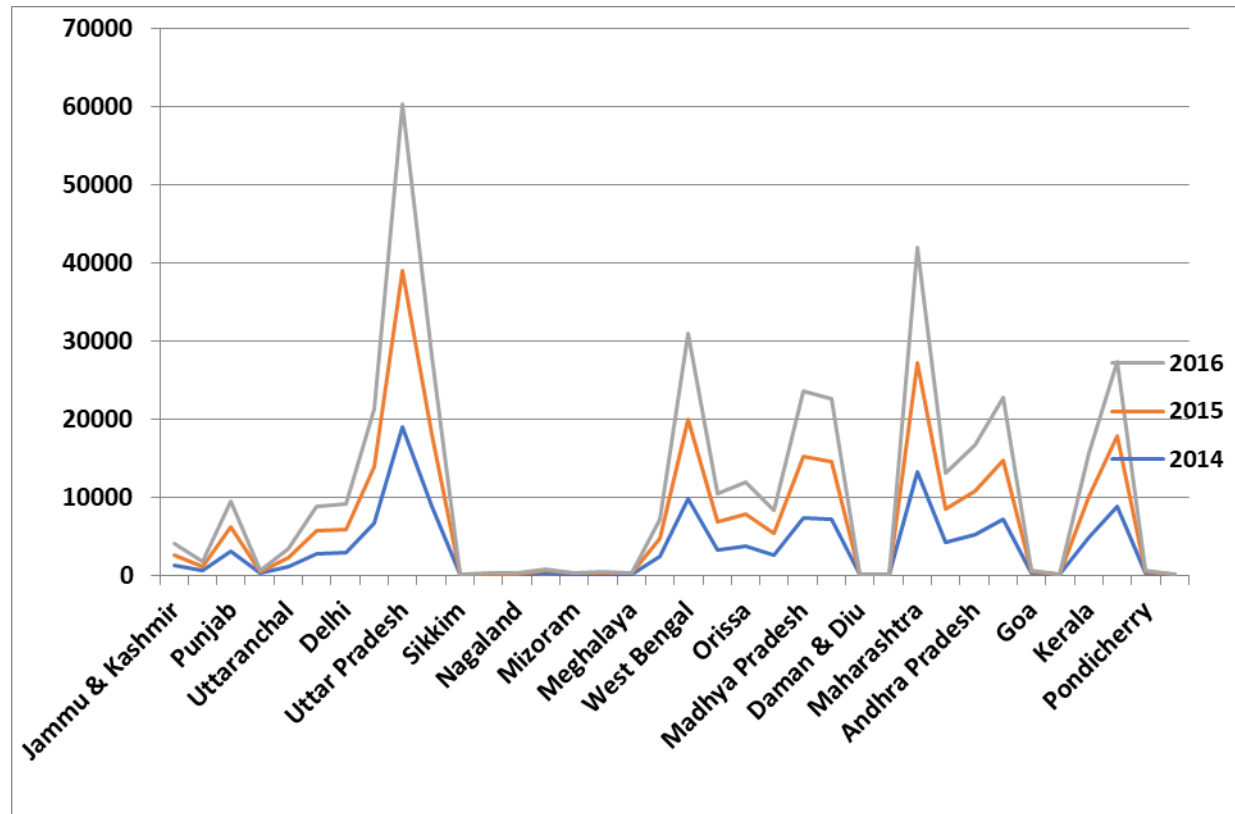
Year wise prevalence of Cancer

Cancer Incidence statewise



It is observed that the maximum number of cancer incidence cases are in Uttar pradesh and increasing year by year.

Breast cancer incidence



The estimated number of incident breast cancer cases in India in 2016 was 142,283, 98.1% of which were in females. Breast cancer is the leading cancer in Indian females, accounting for the largest crude incidence rate and prevalence of any cancer type. The highest incidence rate of breast cancer are in Uttar Pradesh, West Bengal, Maharashtra, Kerala.

Molecules Available for BC Treatment

Bevacizumab				
Brand Name	Lead Manufacturer	Dose	MRP	Form
Bevatas	Intas Pharmaceutical	100mg	₹ 25,990.00	Injection
Bevazza	Lupin Ltd	100mg	₹ 21,993.00	Injection
Zybev	Zydus Cadila	100mg	₹ 27,000.00	Injection
Advamab	Alkem Laborateries	100mg	₹ 27,428.00	Injection

Anastrozole				
Brand Name	Lead Manufacturer	Dose	MRP	Form
Altraz	Alkem	1mg	810	Tablet
Altrol	Taj Pharma	1mg	722.82	Tablet
Anabrez	Sun Pharma	1mg	263.75	Tablet

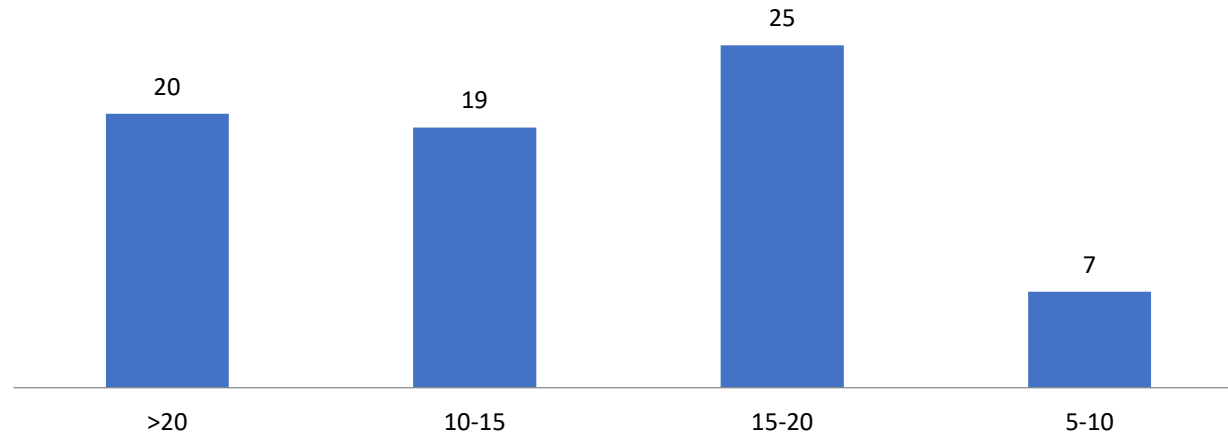
Letrozole				
Brand Name	Lead Manufacturer	Dose	MRP	Form
Trozet	Dabur	2.5mg	428.96	Tablet
Oreta	Dr Reddy's	2.5mg	378	Tablet
Luprolide	Lupin	3.75mg	4000	Injection
Fempro	Cipla	2.5mg	60	Tablet

Market Challenges

- Regulatory hurdles in Oncology trial procedures.
- Restriction on use of new therapies in oncology.
- Shortage of specialized surgical & medical oncologists in India.
- Poor infrastructure to handle high incidence of cancer.
- Increasing cost of launching new drugs and patent expiries.
- Developing new anticancer drugs.
- Patient non-compliance and drop-out due to drug toxicity or other cultural barriers.

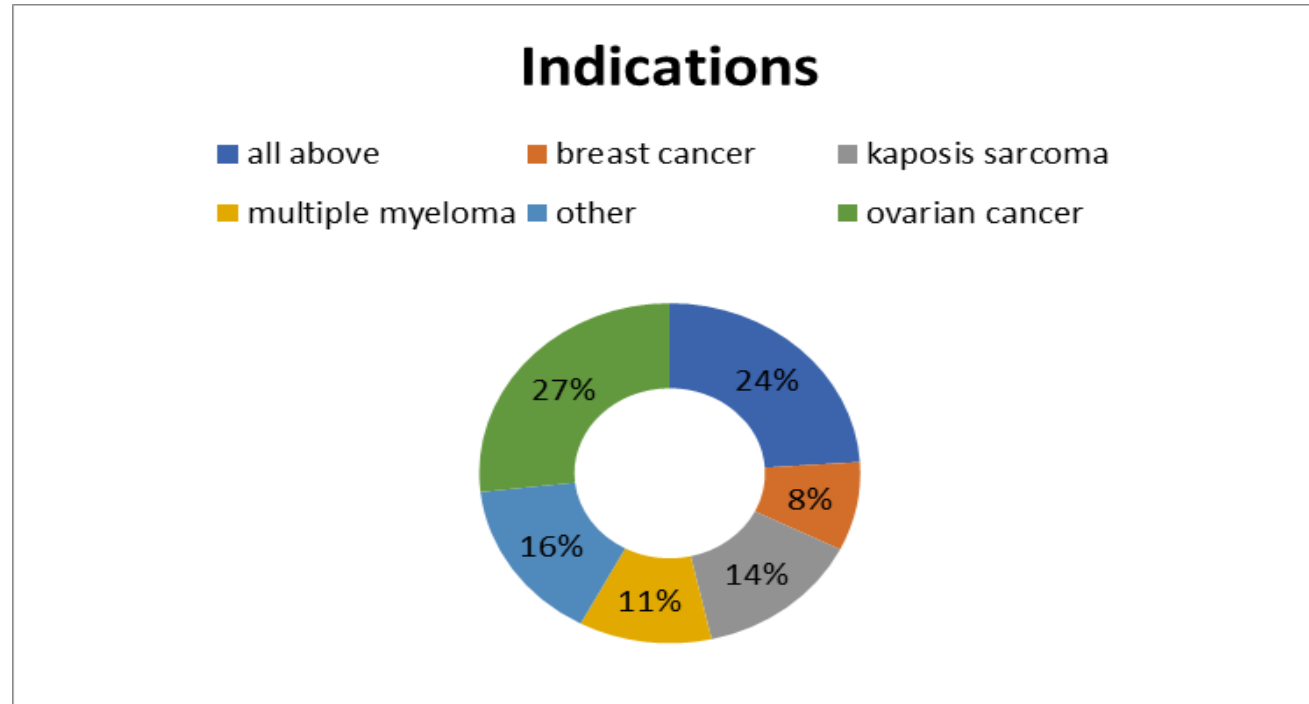
Result from primary research

- Total count of cancer patients seen by oncologist daily-



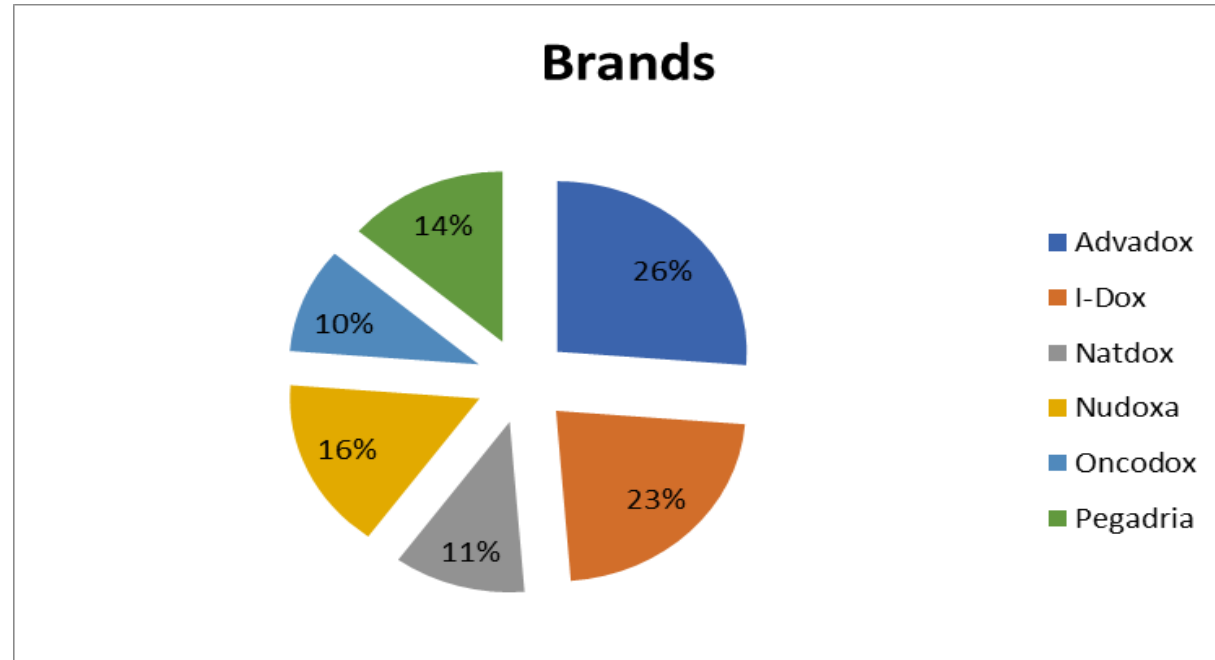
It was observed that burden of cancer patients is high on oncologist i.e 15-20 patients per day followed by more than 20 patients per day due to availability of less oncologist and more patients.

Indications in which doxorubicin hydrochloride is prescribed



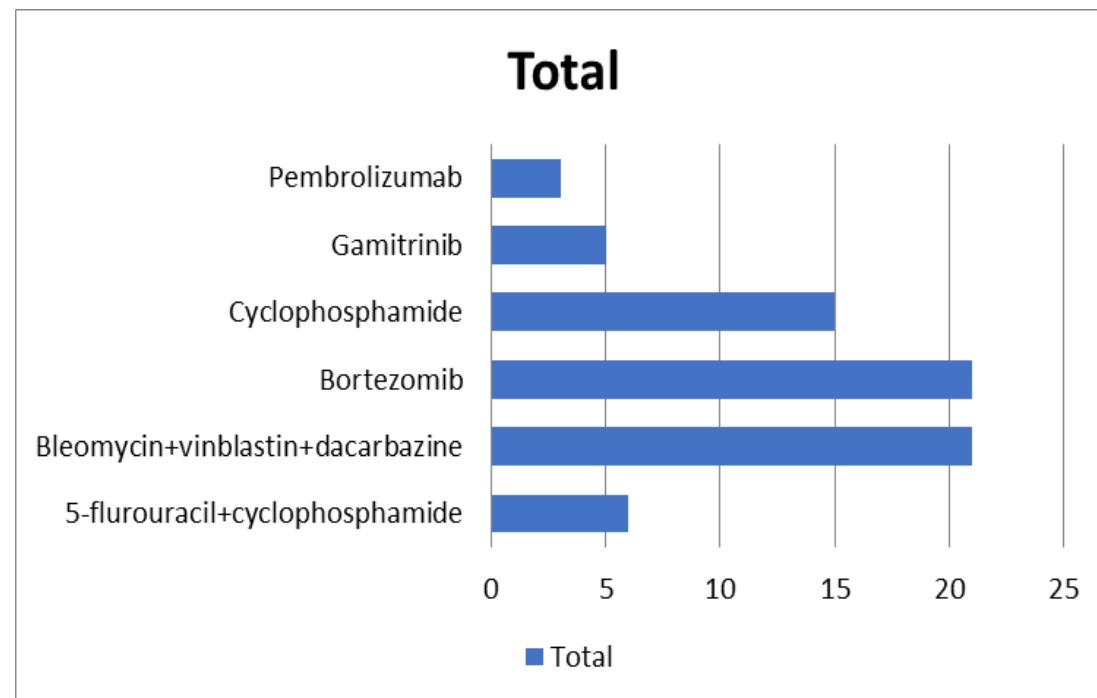
It was observed that doxorubicin hydrochloride is prescribed majorly in Ovarian cancer but in other cancer also like Kaposi sarcoma, multiple myeloma, breast cancer also.

Most preferred brand of doxorubicin hydrochloride by doctor



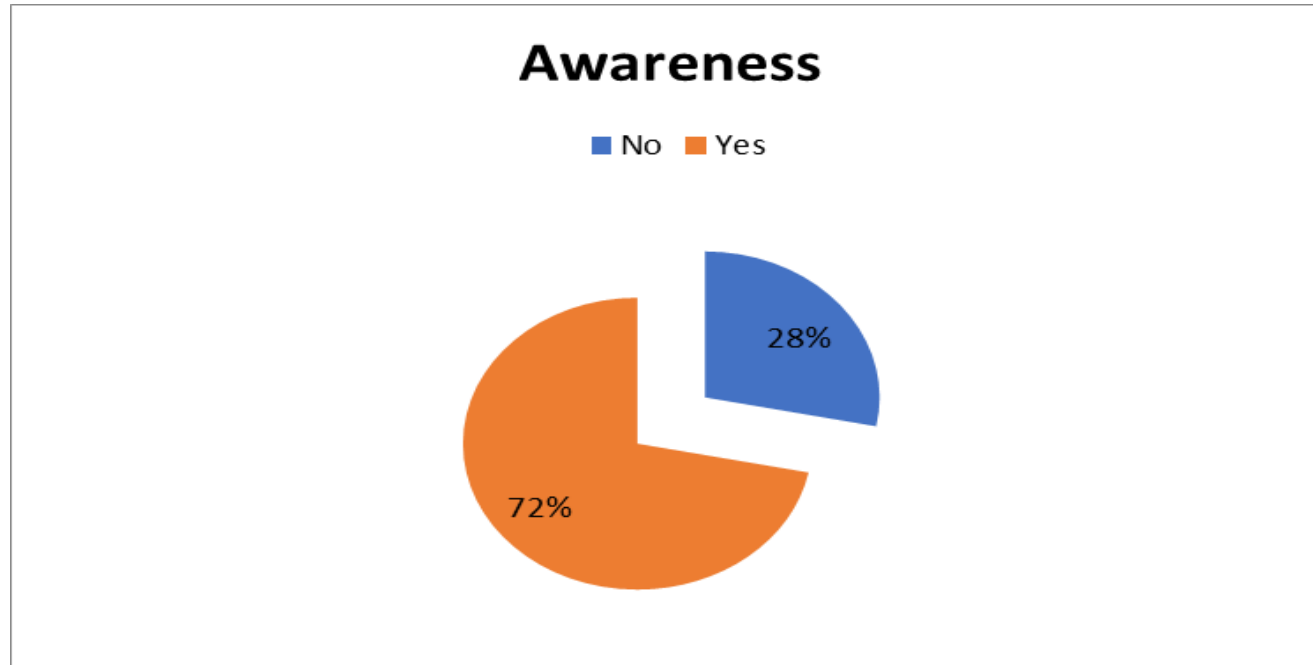
It was observed that Advadox by Sunpharma is the most preferred brand of doctors for Doxorubicin Hydrochloride molecule followed by I- Dox (getwell oncology), Natdox (Nacto pharma), Nudoxa(Zydus), Oncodox (cipla).

Combination Therapies given with Doxorubicin Hydrochloride



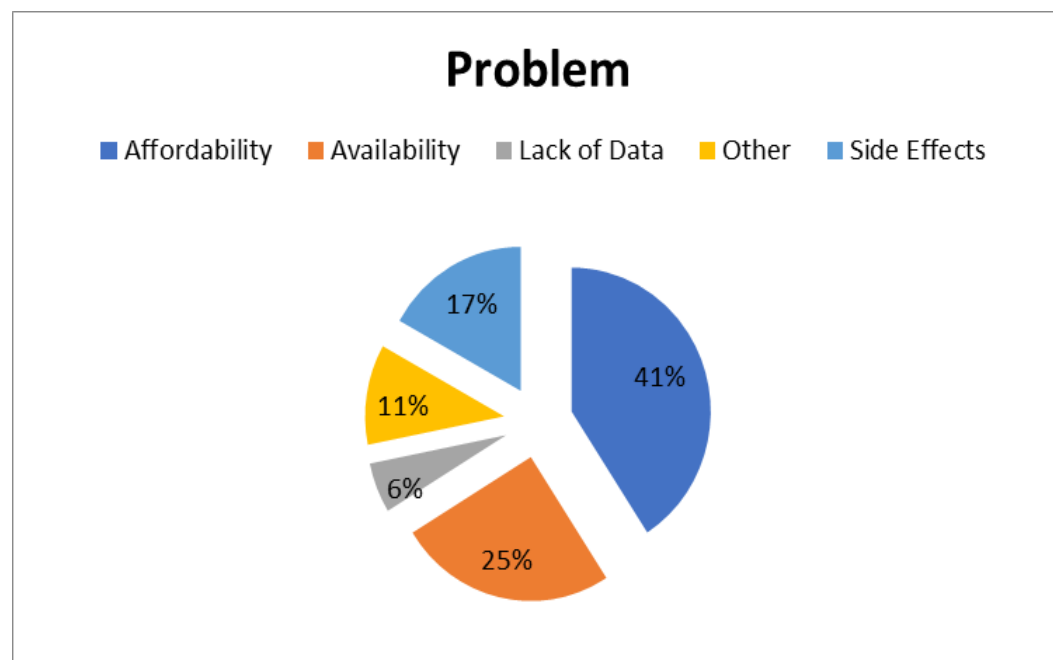
Commonly used doxorubicin-containing regimens are Doxorubicin with Bortezomib, and Doxorubicin with bleomycin,vinblastine, dacarbazine .Note: Doxorubicin with Bortexumib is prescribed in Multiple Myeloma.

Percentage of Doctors aware about the existing brand of Getwell's product



During conversation I asked from respondents about the existing brand of Getwell's products in the market and the answers which i get approx. 72% doctors know about it whereas 28% of them don't know.

Problem Considered while prescribing Oncology drugs-



According to Oncologists the major problem they face while prescribing Anti cancer drug is Affordability followed by Availability and Side effects.

Conclusion

- Among all type cancer, the majority of deaths is due to breast cancer and has increased every year followed by death due to liver cancer that can be seen in most of the recent years but from 1990 to 2006 there is a continuous decrease in the cases of death from larynx cancer and yearwise the prevalence of cancer is increasing in India.
- Age group 50-69 are having maximum number of cancer cases followed by age group 15-49.
- The maximum number of cancer incidence cases are in Uttar Pradesh and increasing year by year
- The estimated number of incident breast cancer cases in India in 2016 was 142283 , 98.1% of which were in females, Breast cancer is the leading cancer in Indian females, accounting for the largest crude incidence rate and prevalence of any cancer type. The highest incidence rate of breast cancer are in Uttarpradesh,, West Bengal, Maharashtra, Kerala.

Conclusion

- Burden of cancer patients is high on oncologist i.e 15-20 patients per day followed by more than 20 patients per day due to availability of less oncologist and more patients which includes followup and new patients both.
- Doxorubicin hydrochloride is prescribed majorly in Ovarian cancer but in other cancer also like Kaposi sarcoma, multiple myeloma, breast cancer and Advadox by Sunpharma is the most preferred brand of doctors for Doxorubicin Hydrochloride molecule followed by I- Dox (getwell oncology), Natdox (Nacto pharma), Nudoxa(Zydus), Oncodox (cipla).
- Commonly used doxorubicin-containing regimens are Doxorubicin with Bortezomib, and Doxorubicin with bleomycin,vinblastine, dacarbazine .Note: Doxorubicin with Bortezomib is prescribed in Multiple Myeloma
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References

- 1. Mallath MK, Taylor DG, Badwe RA, Rath GK, Shanta V, Pramesh CS, et al. The growing burden of cancer in India: Epidemiology and social context. *Lancet Oncol.* 2014;15:e205–12. [PubMed]
- 2. Deepali Narula, Laura Medford-Davis, MD, Seema Parmar, and Edward Levine, MD, “The Quality Payment Program under MACRA: Strategic implications for providers and payers,” McKinsey on Healthcare, December 2017, <https://healthcare.mckinsey.com/quality-payment-program-under-macra-strategic-implications-providers-and-payers>. Accessed March 9, 2018.
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