

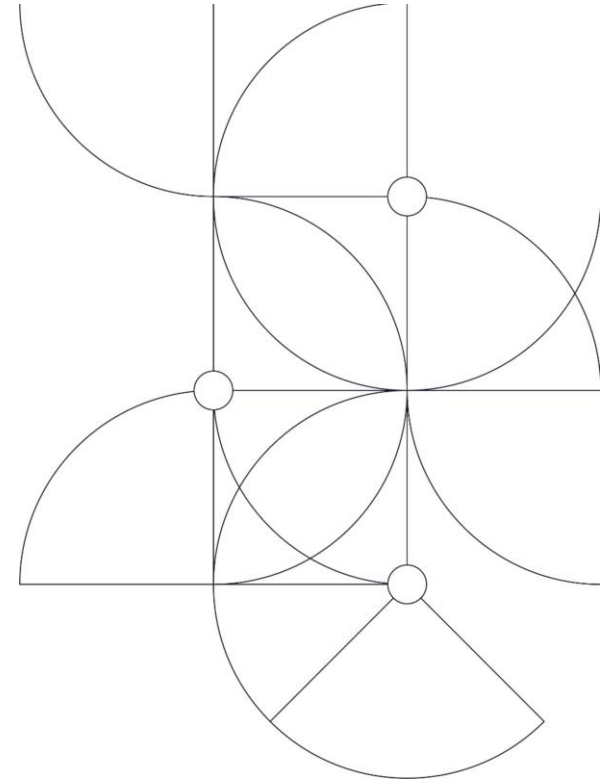
Determining the Availability and Price difference of Anticancer Drugs Enlisted in WHO Essential Medi-cines List between the Retail Pharmacy Stores and Janaushadhi Stores

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By

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Overview

- **Background**: Cancer prevalence in India is showing an increasing trend. amid this availability and pricing of essential medicine is a big question. GOI has established a generic pharma store to make these drugs easily available.
- **Aim**: To find out the availability of the anticancer drug enlisted by WHO in the Essential list of medicine and compare the price difference with Retail Pharma Store
- **Methodology**: The availability and pricing of the anticancer drugs were identified and later that price is compared with the retail pharma store prices.
- **Result**:
 - The Price of Anticancer Drugs available at the Janaushadhi store is **significantly lower** than the price of the same drugs available at retail stores.
 - Out of **56** drugs **24** are included in the *Pradhanmantri Bhatiya Janaushadhi Pariyojana*.
 - Whereas, Out of these 24 drugs, only **7 drugs are available** in the generic market.
 - Difference between pricing of drugs which are available was is **40% to 80%**.

Introduction

- The WHO Model List of Essential Medicines contains the medications considered to be most effective and safe to meet the most important needs in a health system
- Cancer is one of the **most common and widely affecting** non-communicable diseases in today's world and it is the **second most common cause** of death in India.
- Anticancer or antineoplastic drugs are of prime concern in the country like India due to their **high prices & availability** also.
- India is having a good pharmaceutical market with almost all kinds of treatments & drugs. But the main concern was always about the affordability of those medicines.
- It is estimated that the average cost of cancer care is **Rs. 72,092 in public hospitals** whereas in private hospitals this cost is around **Rs. 1,41,774** and again this may vary from state to state.
- To provide the medicine at an affordable price Government of India stated the Janaushadhi Pariyojana in 2008-2009 which later became the PMBJP.
- Under this scheme, Janaushadhi stores were opened at various locations across India to provide quality generic medicines at affordable prices to needy people.

Objectives

- To analyze the availability and price difference of Anti-cancer WHO Essential Medicines between the Retail Pharmacy Store & Janaushadhi Store
- Primary objective
 - Assess the availability of Anti-cancer WHO Essential Medicines between the Retail Pharmacy Store & Janaushadhi Store.
 - Compare the price variation of Anti-cancer WHO Essential Medicines between the Retail Pharmacy Store & Janaushadhi Store.

Methodology

- This study is a descriptive exploratory study, which involves the study of various research articles, books, and publications to know about the working of janaushadhi stores.
- Also, to know which medicines are available there from the essential list of medicine and pricing along with the availability of selected anticancer drugs.
- Research Question
 - Is the Anti-cancer WHO Essential Medicines available in the Retail Pharmacy Store & Janaushadhi Store?
 - What is the price difference between Retail Pharmacy Store & Janaushadhi Store?

Result & Discussion

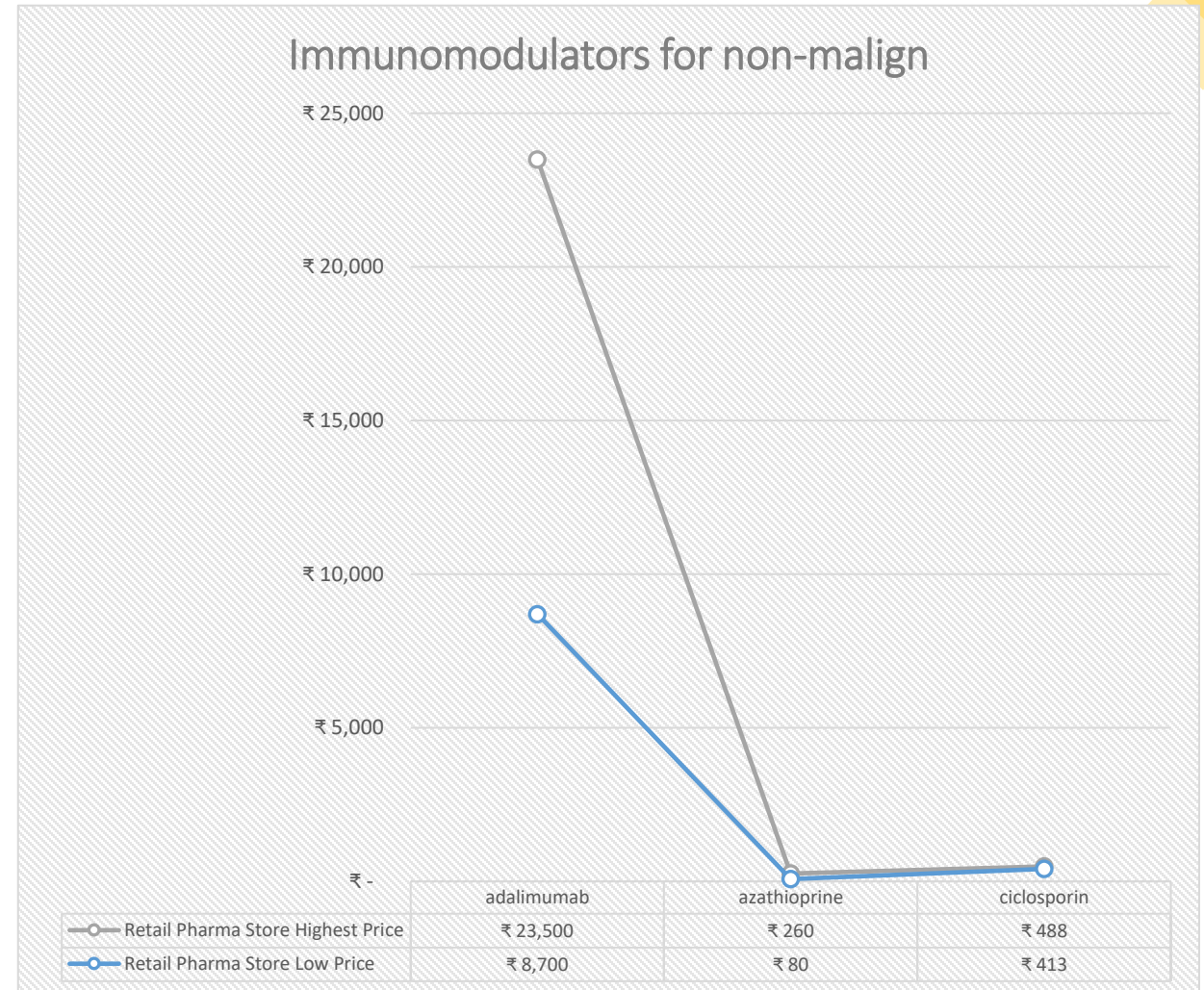
Price comparison of medicines available in the pharma stores and Janaushadhi stores



- WHO's Essential medicine list has enlisted the 56 drugs for the treatment of cancer. Out of those 56 drugs 24 are included in the *PMBJP*.
- Out of these 24 drugs, only 7 drugs are available in the generic market the rest 18 are unavailable
- The price of certain branded drugs is as high as 60,000 whereas the generic form of the same drug costs around Rs. 3,000 in the Janaushadhi store but it is unavailable in those stores.
- The average price difference between Janaushadhi drug stores and retail pharma is as high as ₹ 1,31,000 and as low as ₹ 28,000.
- Considering the out-of-pocket expenditures of the Indian population, this huge price difference shows the necessity and availability of anti-cancer drugs in generic medicals.

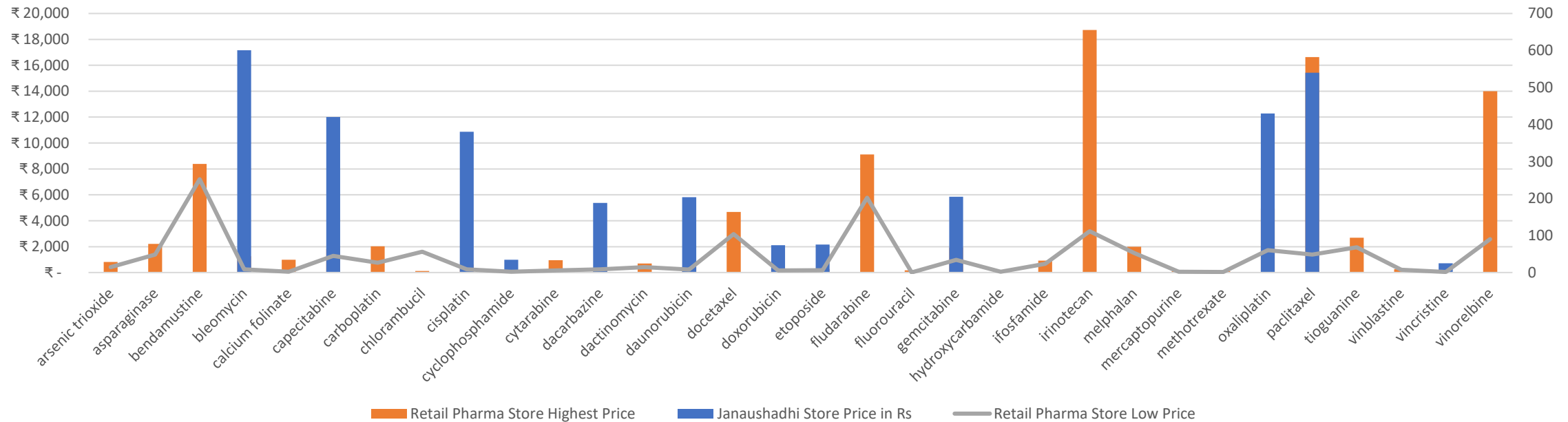
Result & Discussion

- This graph shows that there are 3 Immunomodulators i.e., Adalimumab, Azathioprine, and Ciclosporine mentioned by WHO in its essential medicine list & out of that no drugs are mentioned in the PMBJP list of medicines.
- The retail pharma market price of Adalimumab is Rs. 23,000 whereas the lowest price is around Rs. 8700 as it is a patented drug that will expire in 2034.
- In the case of Azathioprine and Ciclosporin prices are under Rs. 500 and patents of both drugs are expired yet they are not enlisted in the PMBJP list of medicine.



Result & Discussion

Price Comparison of Cytotoxic medicines

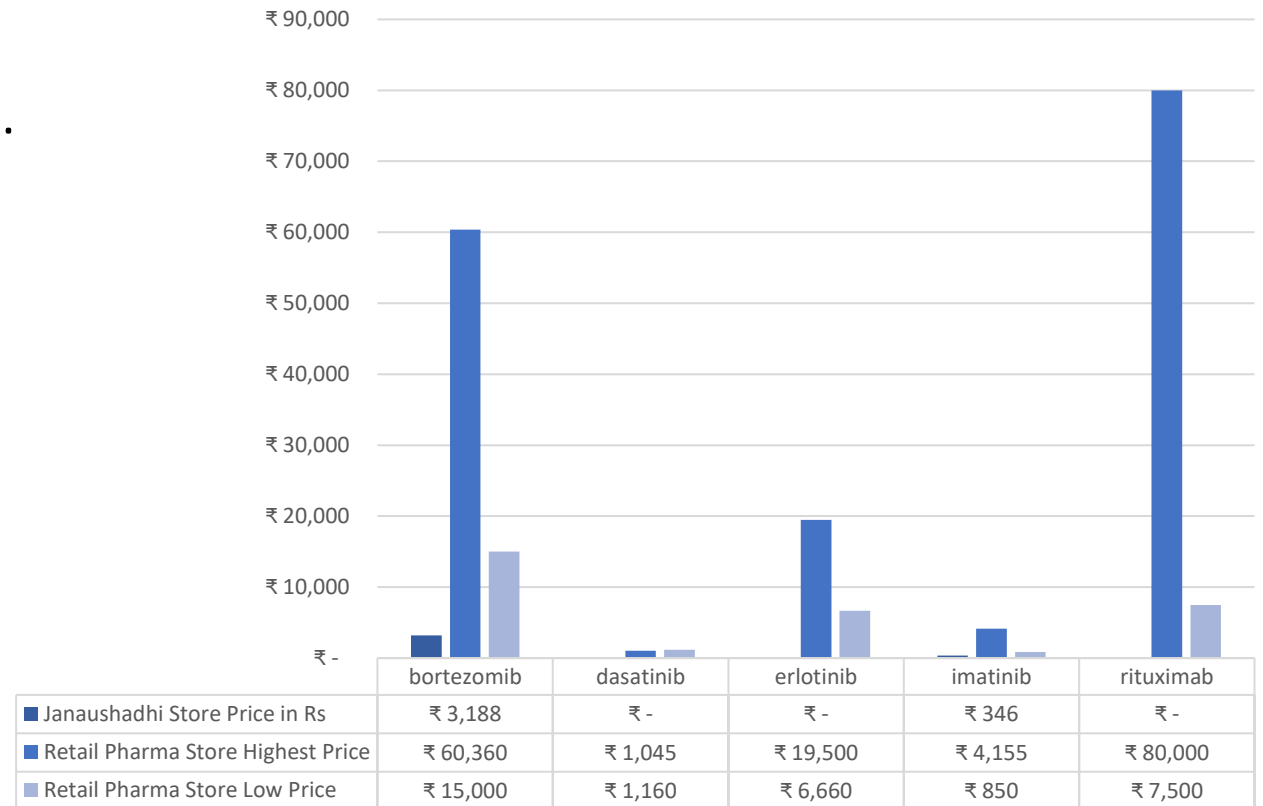


- In graph 5.3, out of 33 cytotoxic drugs given by WHO in its essential medicine list only 12 drugs are mentioned in the list of drugs given by PMBJP out of which only 4 are currently available in the market & 8 drugs are not mentioned in the revised price list of Oct 2020.
- Bleomycin, Cisplatin, Doxorubicin, and Gemcitabine are the only 4 drugs that are available in the generic market. The remaining 8 drugs are unavailable.
- Price comparison of all 12 drugs shows that the Price in the Janaushadhi store is cheaper and more affordable than the price of those 12 drugs in retail pharma stores except cisplatin and Bleomycin.

Result & Discussion

- In graph, out of 5 drugs for a targeted therapy only two drugs are enlisted in the list of PMBJP but are not available in generic stores as per the recent pricing list.
- The price comparison of Bortezomib and Imatinib shows the difference is around 60%-80%.
- The three unavailable drugs Dasatinib, Erlotinib, and Rituximab are having high prices and patents are expired.

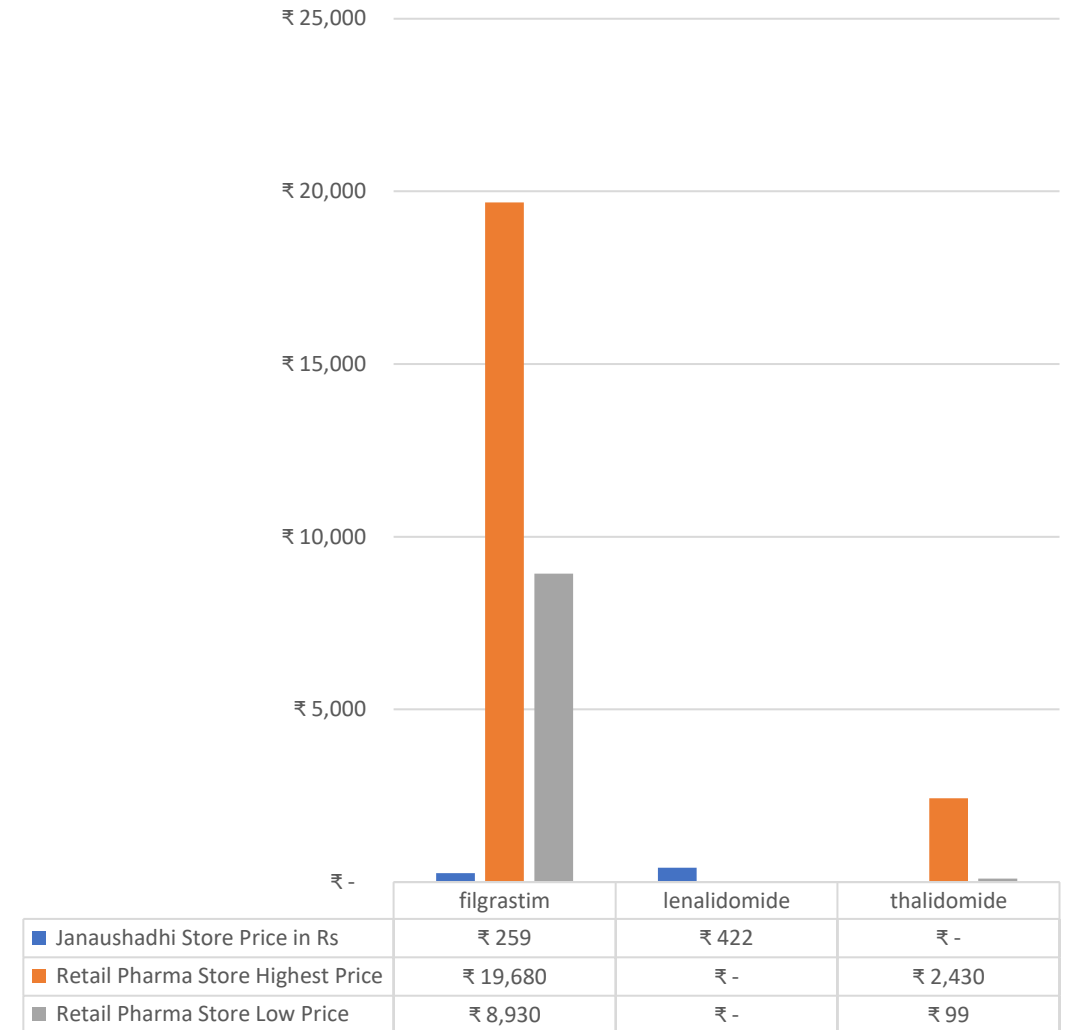
Price Comparison of Targeted Therapy



Result & Discussion

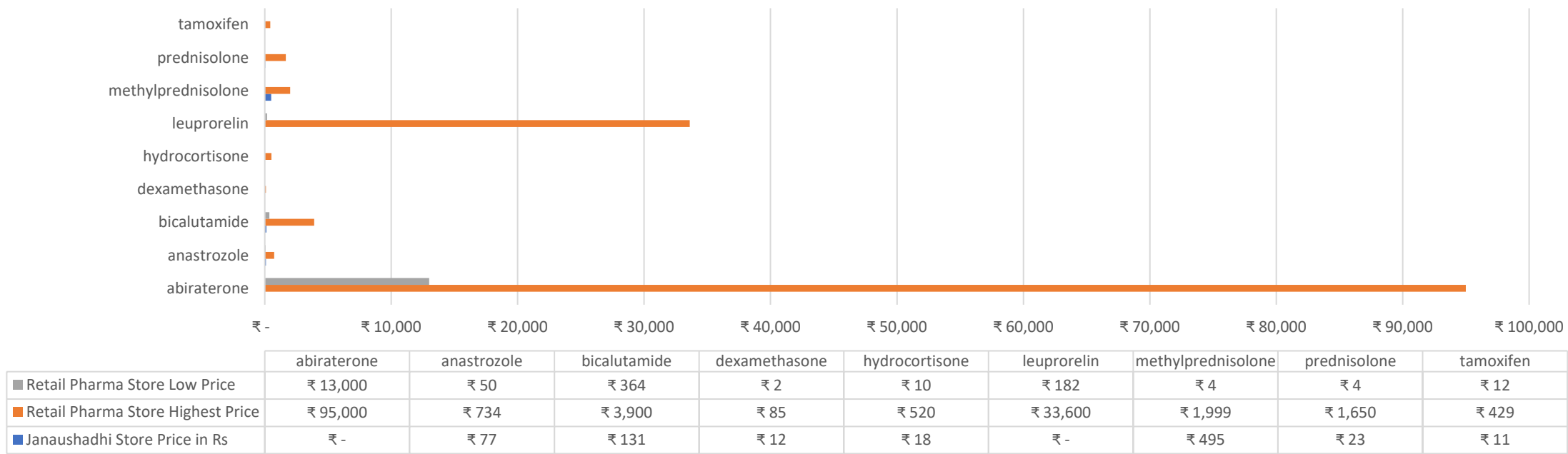
- There are 3 drugs mentioned under the Essential Drugs by WHO out of which two are mentioned in the PMBJP list of drugs but unavailable in the recent drug price list. Lenalidomide which is mentioned in the PMBJP and unavailable in Janaushadhi stores is also unavailable in the retail pharma market as well.
- Filgrastim which is unavailable in the Janaushadhi stores is cheaper by about 90% compared to the Branded Drugs.

Price Comparison of Immunomodulators



Result & Discussion

Price Comparision of Harmones & Antiharmones



- Out of 9 drugs mentioned by WHO in the essential medicine list, 7 of them are mentioned in the PMBJP but only 2 of them are available in the recent pricing list, the rest five drugs are unavailable.
- The Price comparison of the available and unavailable drugs shows that the price of these medications is nearly equal to the lowest price of branded medicines while some drugs have lesser prices than branded ones compared to generic drugs available in the Janaushadhi stores

Result & Discussion

- In the case of supportive medicines, two drugs are mentioned in the list of PMBJP out of 3 drugs given by the WHO, whereas only one is available in the market currently.
- The price comparison shows that the two drugs are having very less price compared to the Branded drugs.

Price Comparoision of Supportive Medicines



Conclusion

- The study of this project reveals that there is a **great scarcity** in the **affordable healthcare system** for the treatment of cancer.
- It is estimated that there are around 7500 Janaushadhi stores in India to provide cheap but quality medicines to the masses with the help of BPPU (Bureau of Pharma Public Sector Undertakings of India).
- But only **25 drugs out of 54** mentioned by WHO in its List of Essential Medicines are included in the PMBJP products- therapeutic groups, and **only 7** of them are available in the generic market currently,
- The rest **18 drugs** are either **unavailable or stopped selling** due to COVID-19 and thus further study is required to know the impacting factors.
- This is affecting the people who are unable to afford the high-priced treatment of cancer economically which may be one of the reasons why India is currently having the 2nd most deaths caused due to cancer.

Thank You!!
