Impact of the volume-based purchasing policy on the utilization of tyrosine kinase inhibitors for chronic myeloid leukemia in Chinese tertiary care hospitals: a retrospective analysis of hospital procurement data

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INTRODUCTION

- In 2019, the Chinese National Healthcare Security Administration (CNHSA) launched a volume-based purchasing policy (VBP) pilot program in eleven Chinese cities. In 2020, the initiative continued as an expanded VBP program, which launched in other major cities across China.
- Imatinib was the only tyrosine kinase inhibitor (TKI) included in both the pilot and expanded VBP programs.
- Although VBP was expected to improve the accessibility and affordability of universal health coverage in China by encouraging generic substitutions, its actual impact on the utilization of drugs and related treatment patterns has not been well-defined.

OBJECTIVES

- To describe changes in the utilization of TKIs for chronic myeloid leukemia (CML) after implementing the imatinib VBP policy in China.

METHODS

Data source

- Hospital procurement database of Chinese Pharmaceutical Society Medicine Information Network was used to estimate the utilization of TKIs per chemical and brand names in the enrolled hospitals from May 2017 to April 2021.

Data collection

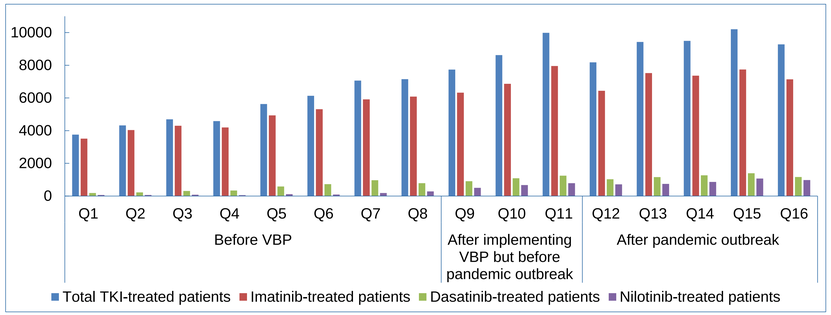
- Information regarding 947 hospitals enrolled: hospital rank (tier IIIA: 60.7%, tier IIIB: 7.5%, tier IIB: 18.5%), hospital type (general hospital: 97.1%, specialized hospital: 2.9%), and geographic location (tier I city: 37.1%, tier II city: 17.2%, tier III city: 17.1%, tier IV city: 13.8%)
- Procurement information: procurement date, chemical name of drug, brand name of drug, drug specifications, and procurement quantity.

Data statistical analysis

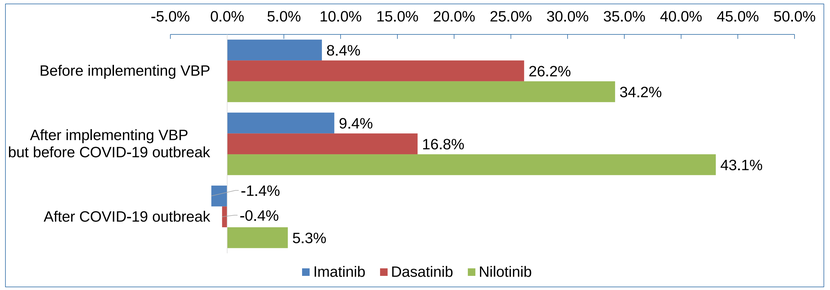
- The utilizations and distributions of TKIs before and after implementing VBP were compared using descriptive statistical methods.

RESULTS

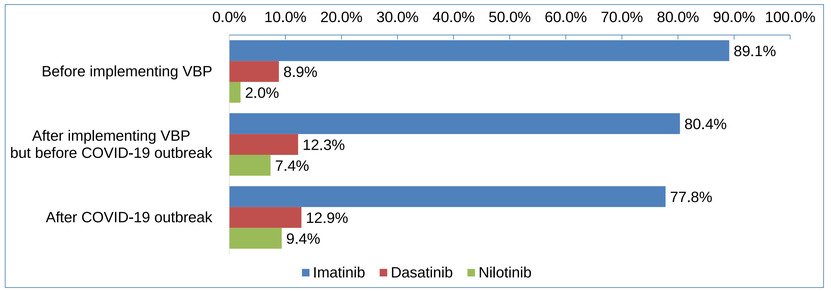
1. VBP pilot program: estimated number of patients treated with TKIs across 16 quarters from May 2017 to April 2021



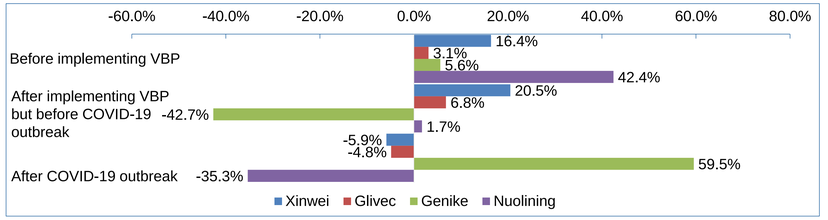
2. VBP pilot program: average quarterly change (percentage) for the number of patients treated with TKIs



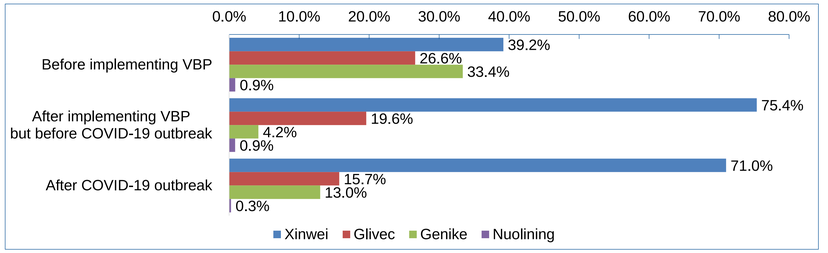
3. VBP pilot program: Pooled distributions of TKI utilization by chemical names



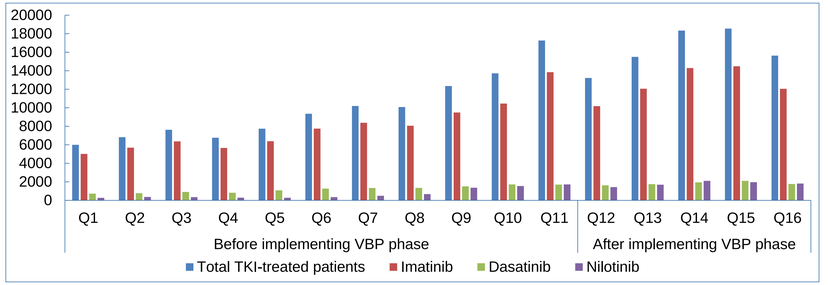
4. VBP pilot program: average divided quarterly change (percentage) for the number of imatinib-treated patients by their brands



5. VBP pilot program: pooled distributions of imatinib utilization by brand names



6. VBP expanded program: estimated number of patients treated with TKIs for each of 16 divided quarters



CONCLUSIONS

- The utilization of both generic imatinib and originally patented imatinib increased more after implementing VBP in China.
- The generic imatinib brands winning the bid of VBP could replace other generic imatinib brands after implementing VBP to increase their utilization distributions.

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