

Health Information Quality Evaluation of Prescription Medicines Internet Retail Platform in China Based on DISCERN - A Case Study of Paroxetine Hydrochloride

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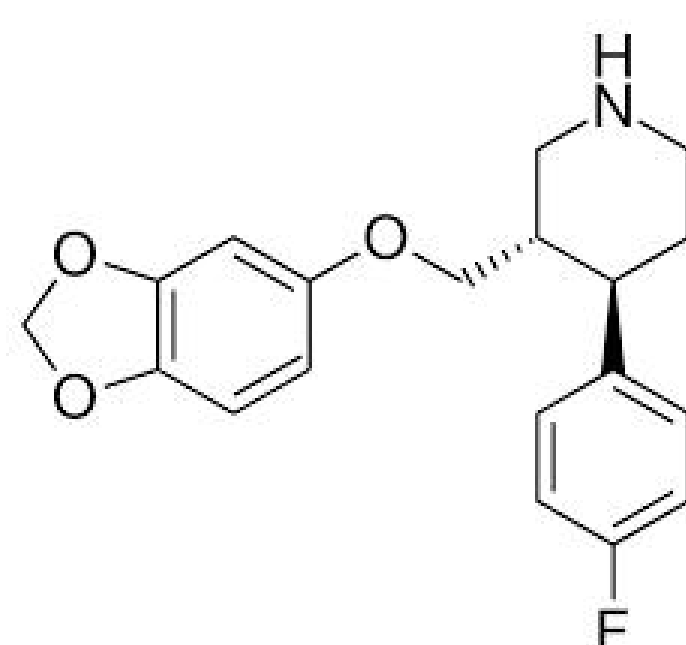
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P185

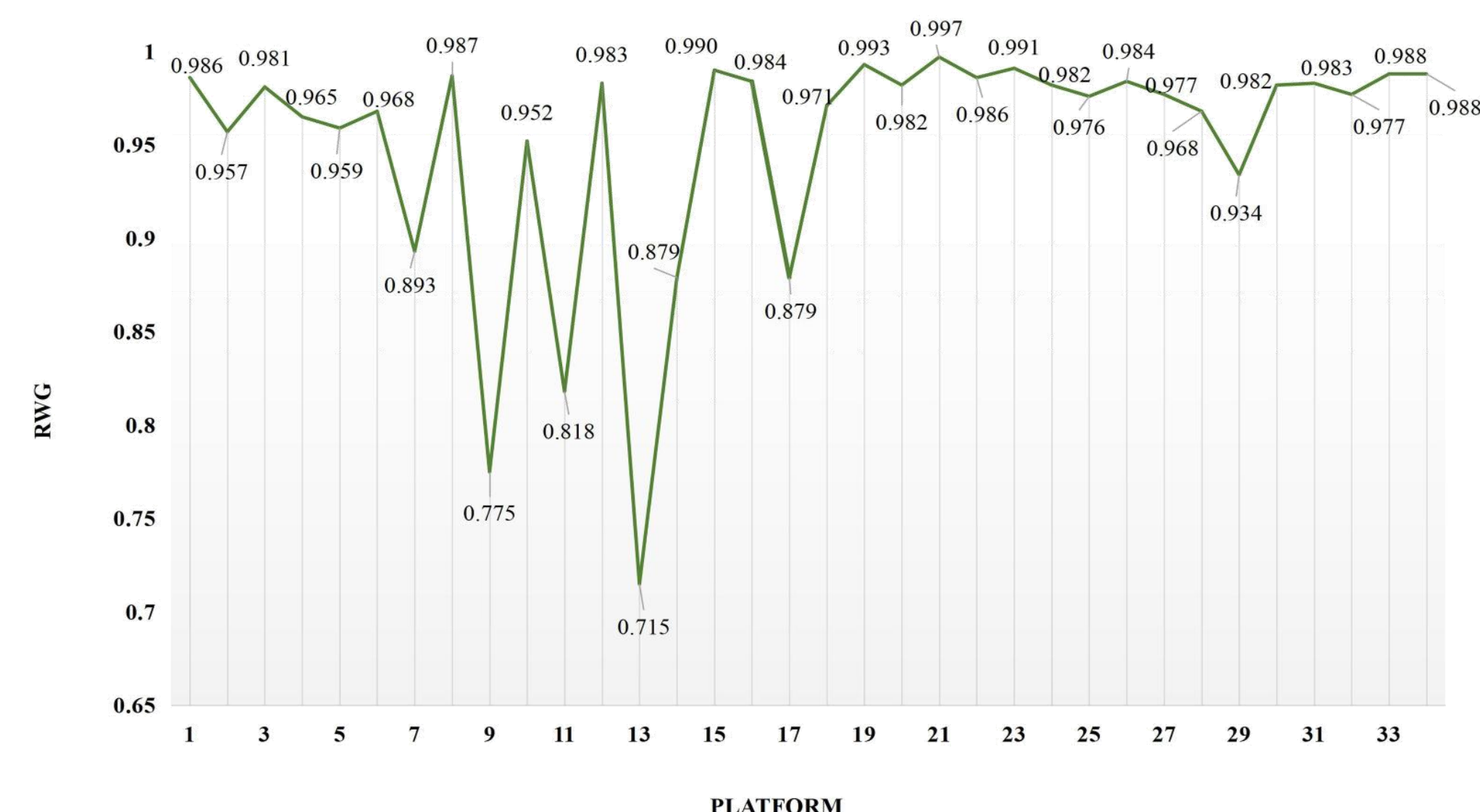
INTRODUCTION

- With the promulgation of *the Provisions for Supervision and Administration of Pharmaceutical Online Sales* in 2022, China has established a standardised set of regulatory rules for the internet retail of prescription medicines.
- We aim to gather evidence to help improve Chinese internet retail platforms' practices regarding providing comprehensive and accurate health information on prescription medicines, and establish a baseline for enhancing the supervision of prescription medicines' internet retail.
- This observational study investigates the quality of the health information provided by 34 key platforms operated in China that sell paroxetine online.
- Three trained master medical students independently used the DISCERN scale to perform the evaluation. We tested the scoring results' consistency among evaluators and the evaluation's reliability.



RESULTS

Within-Group Agreement Test on Scoring Results from the Three Evaluators for Each Platform



Within-Group Reliability Test on the Three Evaluators

$$ICC(1) = \frac{MSB - MSW}{MSB + (k-1)MSW} = 0.764$$

$$ICC(2) = \frac{MSB - MSW}{MSB} = 0.906$$

Figure 2: Within-group agreement values (rWG) of the scoring results for three evaluators across 34 platforms

Scoring Results and Attribute Distribution

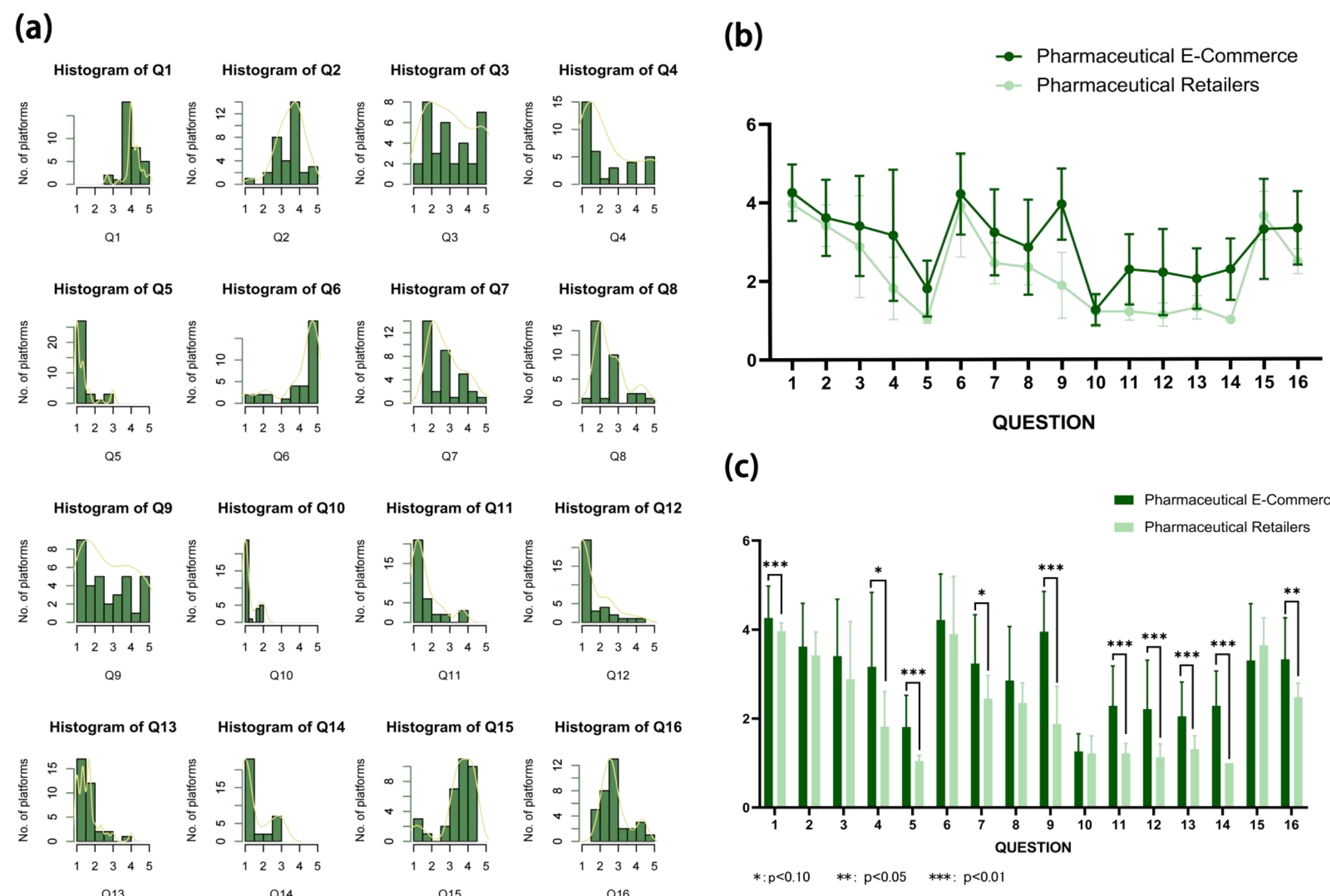


Figure 3: (a) Distribution of scoring results for each DISCERN question across all 34 platforms; across all investigated platforms, the results for Q3, Q4, Q5, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, and Q16 were skewed left. (b) Scoring results on each DISCERN question for the two platform types. (c) differences in scoring results between types.

Overall Quality Analysis

The mean overall score on the quality of health information was 40.48 (SD = 7.20). Of these, the evaluations showed that 5 were excellent (14.71%), 8 were good (23.53%), 10 were fair (29.41%), and 11 were poor (32.35%).

Variability Analysis on Different Platform Types

Pharmaceutical e-commerce platforms were significantly better than the online platforms of retail pharmaceutical enterprises, in both the overall content quality of their homepages and the quality of health information on prescription medicines.

METHOD

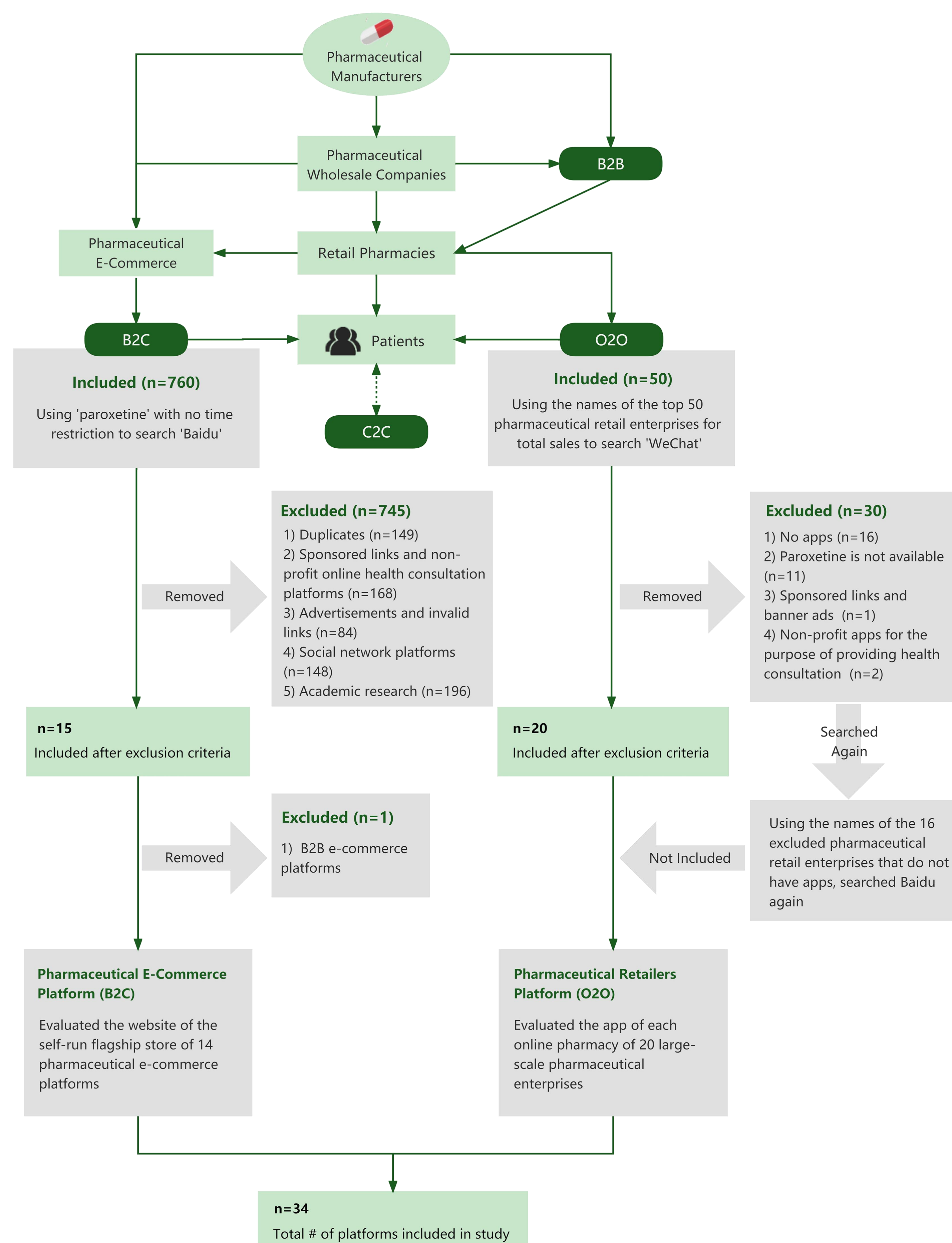


Figure 1: Business model of internet retail platforms and a flowchart of the process for selecting internet retail platforms offering prescription medicines

Note. Abbreviations: B2B = Business to Business, B2C = Business to Customer, C2C = Customer to Customer, O2O = Online to Offline, app = application.

DISCUSSION

- Less than 15% of the investigated platforms performed excellently.
- Obtaining accurate and effective health information on commonly used mental health prescription medicines sold online is difficult.
- The quality of health information presented on the platforms for medicines is low.
- Few platforms fully comply with the regulations for prescription validation and authentication, and professional pharmacy services are insufficient.
- A reliable regulatory approach is needed to ensure prescriptions' appropriate validation and authentication, preferably via an electronic prescription transfer system.

CONCLUSIONS

- Introducing a list of banned prescription medicines with high risks for online retail, holding third-party platforms accountable, and enhancing the general supervision and regulation of e-commerce in the pharmaceutical retail context are important.
- In the absence of secured critical pharmacy services, considering slowing down online pharmacies' expansion is necessary.