

Quality Testing of Mifepristone and Misoprostol in 11 Countries

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Quality of Reproductive Health Medicines Panel

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Study Overview

- Collection and testing of samples of misoprostol, mifepristone, and combination packs of misoprostol and mifepristone drugs taken directly from the market from 12 target LMICs.

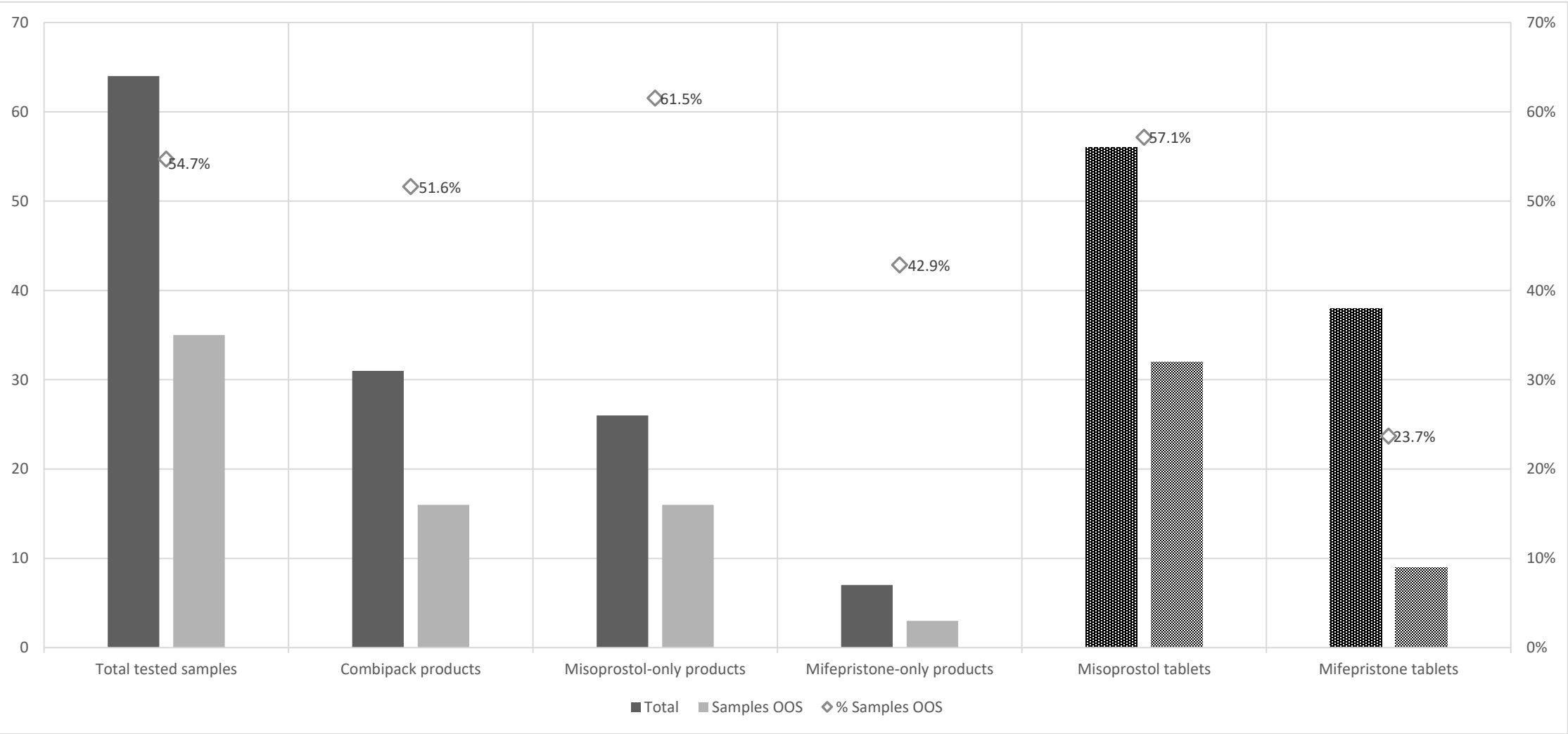
Bangladesh - Burkina Faso - Cambodia - DRC - India - Kyrgyzstan - Moldova - Nepal - Nigeria - Pakistan - Uganda - Viet Nam

- Collaboration with the International Planned Parenthood Federation (IPPF).
- Study was conducted between September 2020 and November 2021.
- Collection sites were at the client point-of-care, including pharmacies, hospitals, and drug sellers. If this was not possible, collection from wholesalers was accepted.
- A total of 23 different sample collectors recorded data from 50 different sites in the 12 countries.
- 94 samples were collected from 12 countries. 64 samples were tested from 11 countries.

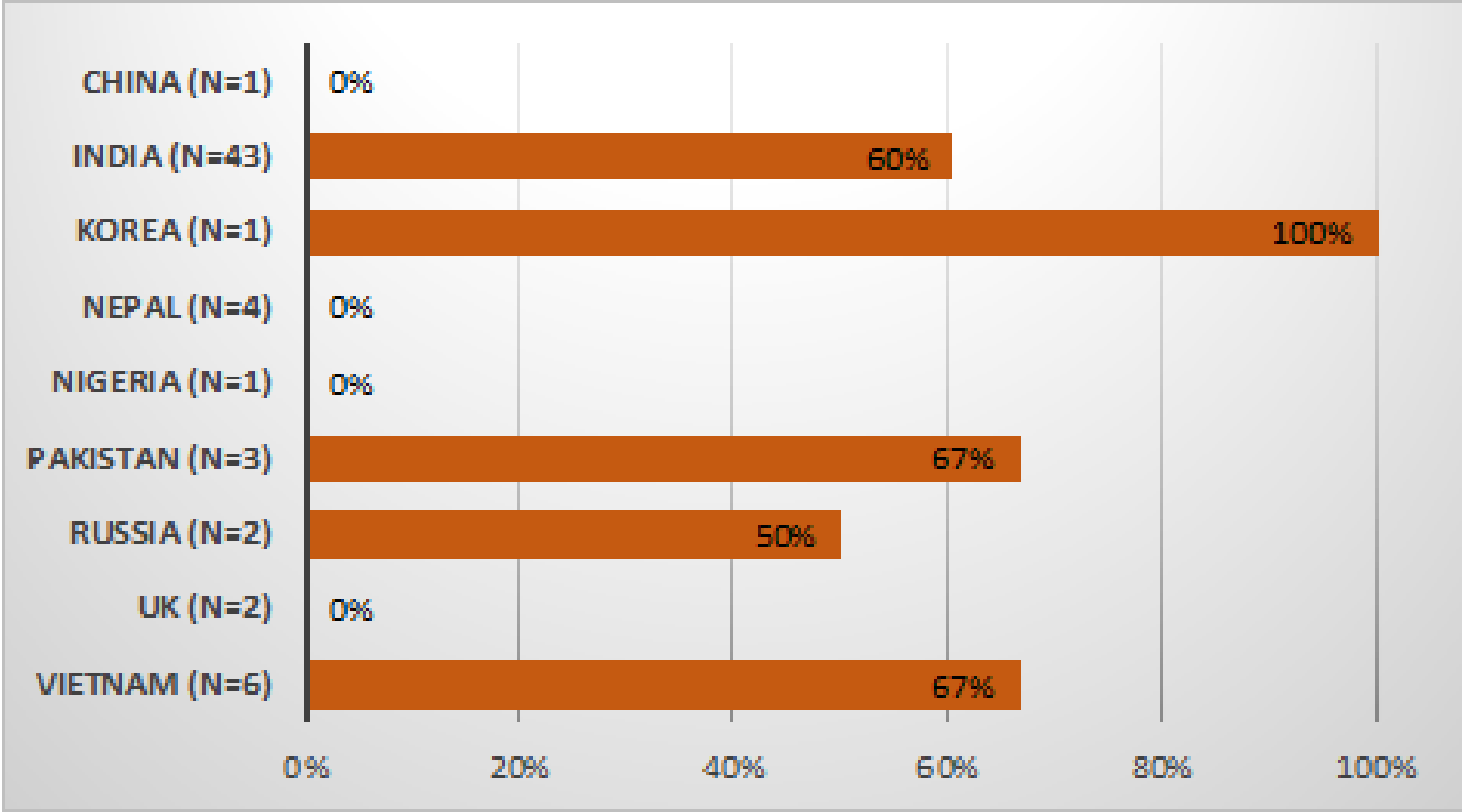
Samples Testing

- Samples were tested in a WHO prequalified laboratory, InphA GmbH. Analytical Methods were verified before implementation for routine tests, and the results were found to be satisfactory.
- Misoprostol tablets were analysed for the selected parameters using the methods and specifications described in the Ph. Int., 9th edition, 2019, Misoprostol tablets monograph.
- In house specification was set for Mifepristone tablets. The USP pending monograph for mifepristone API (2008), the ICH-Q3B and the US-FDA Dissolution Methods Database were used as reference.
- Key quality indicators were selected based on risk assessment.

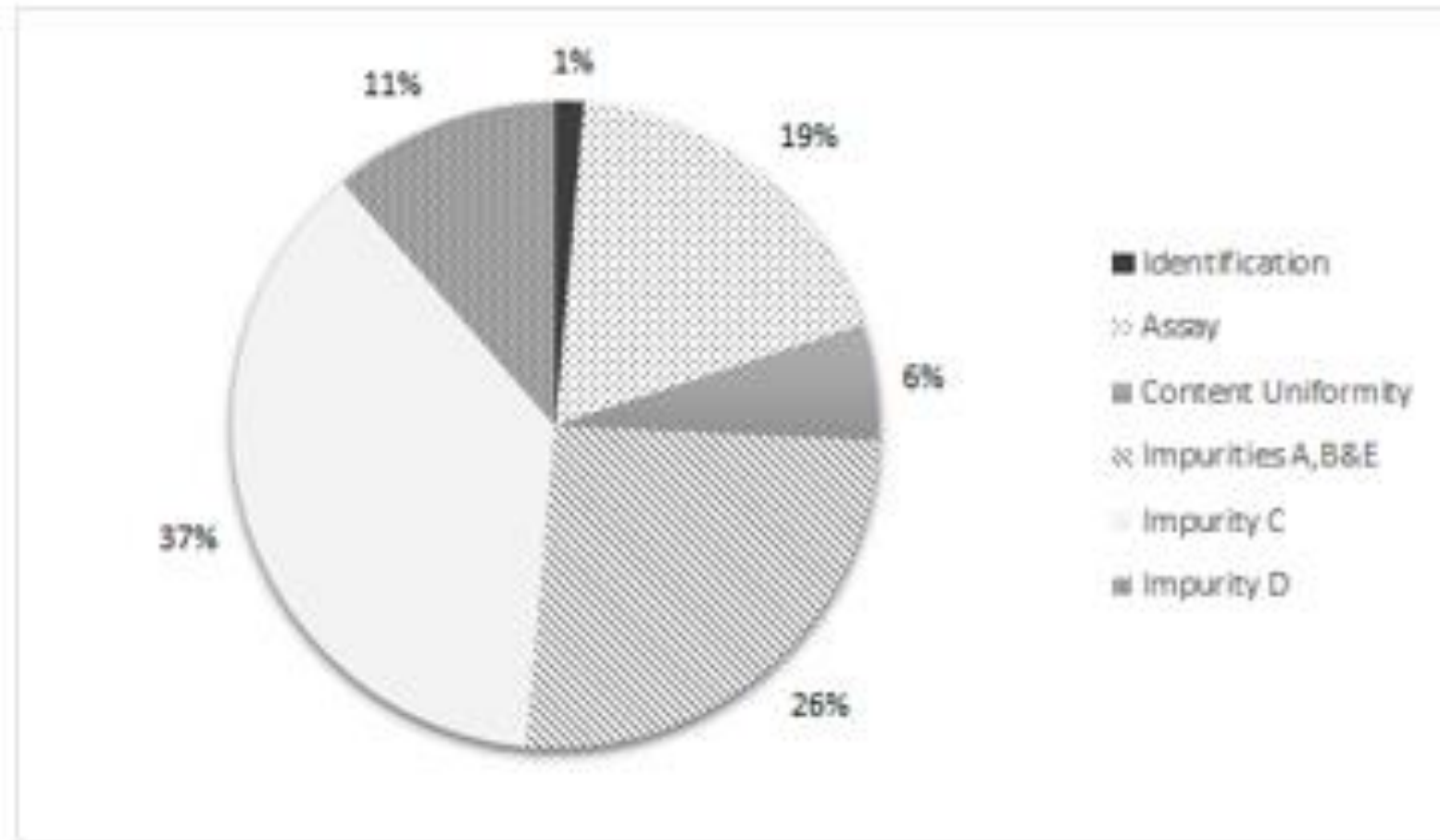
Non-compliant findings profile - by product type



Non-compliant findings profile - by country of manufacturing

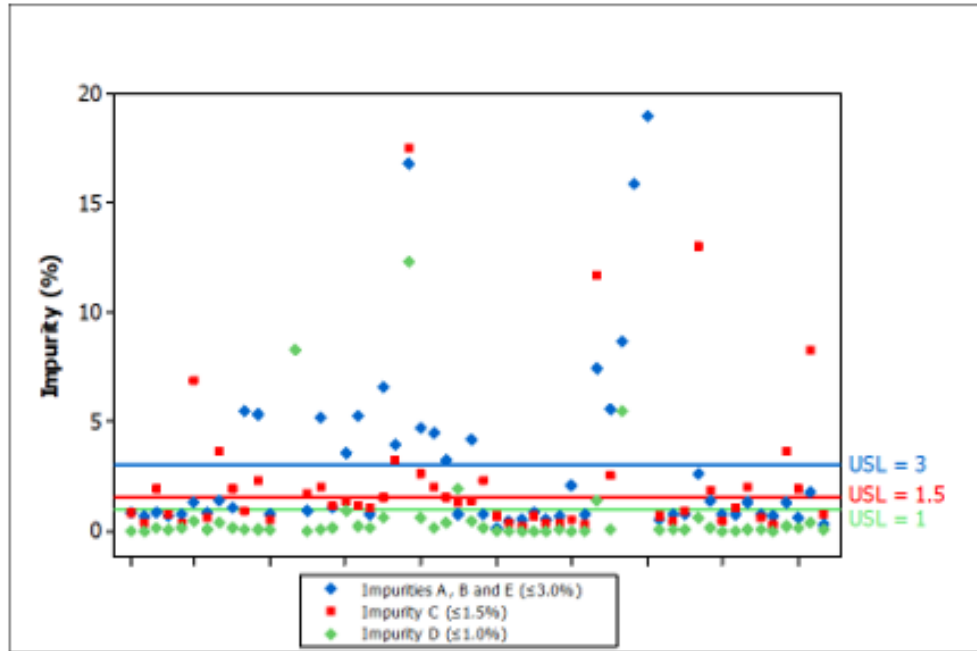


Main findings Misoprostol



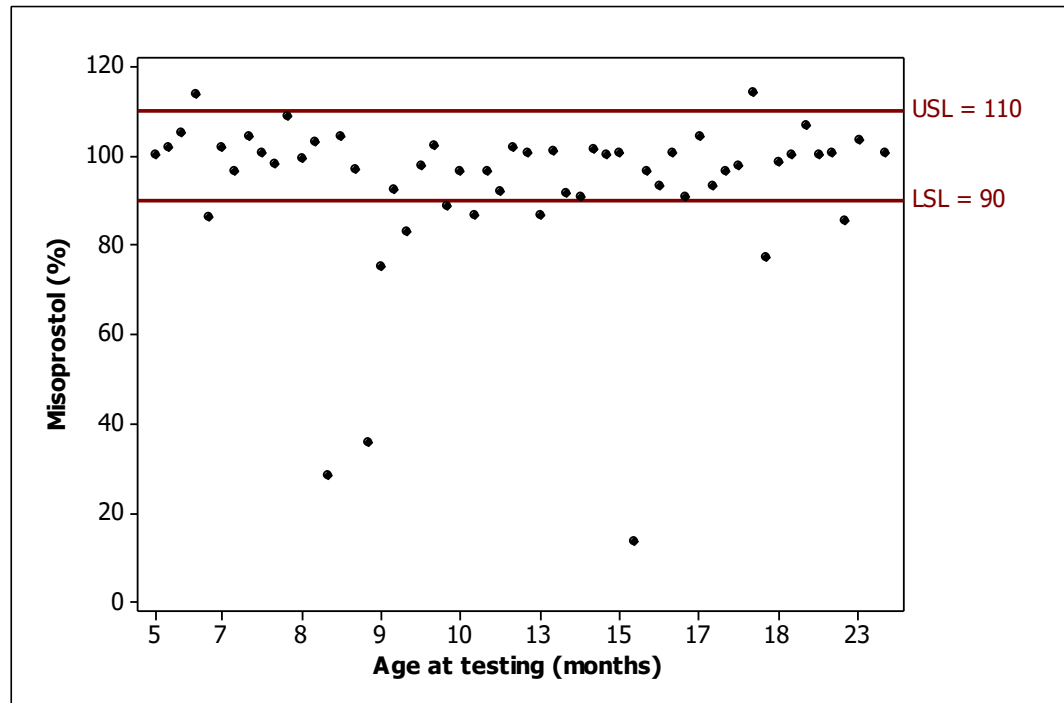
OOS profile for misoprostol tablets (number of non-compliant findings, n=70)

Main findings Misoprostol

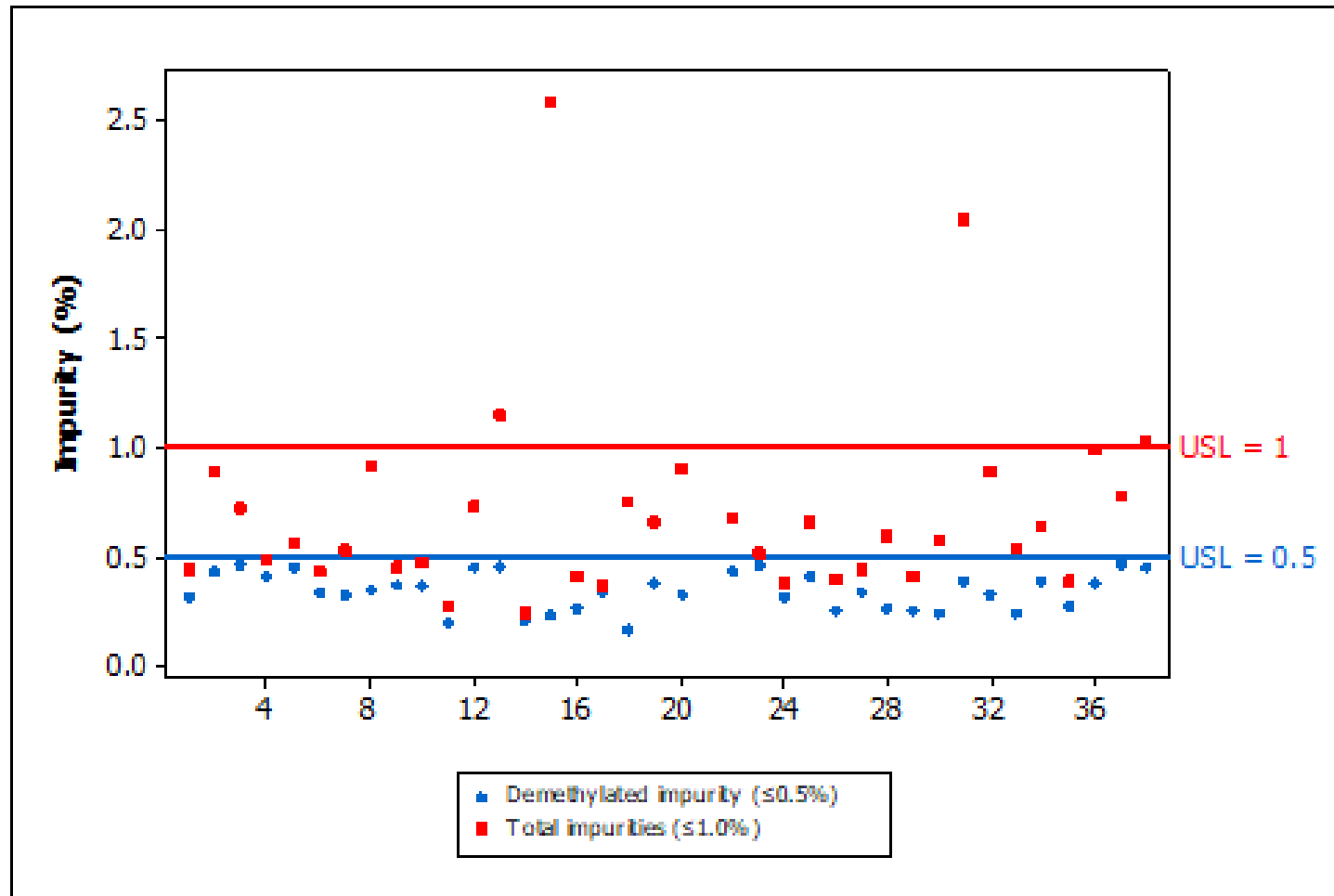


Misoprostol related substances results (condensed scale*).

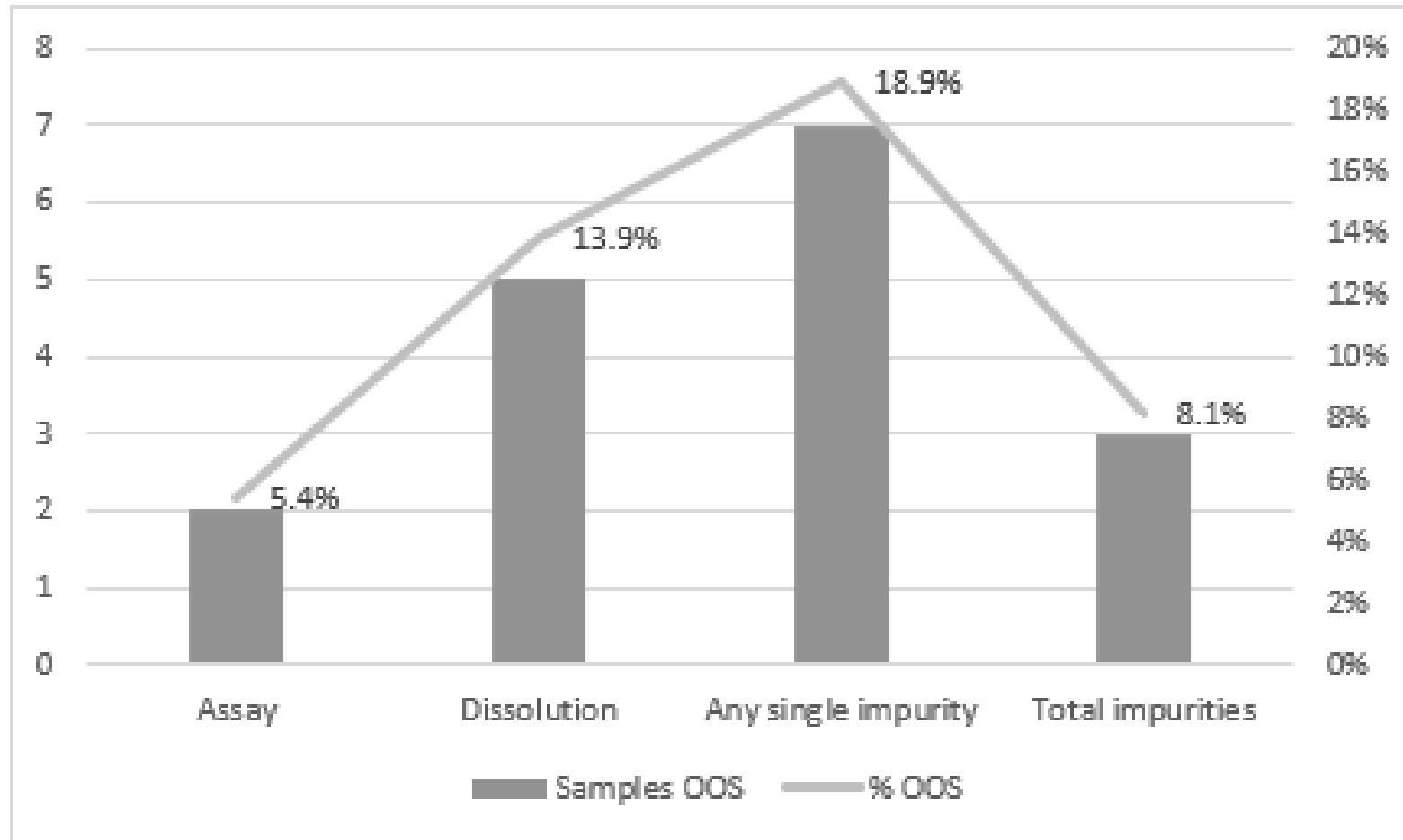
* Note: 8 data points were above 20% range and are not shown on the condensed scale graph: 22.2% (ABE); 26.8% (D); 29.5% (C); 52.3% (C); 76.1% (D); 84.5% (C); 95.1% (D), and; 196.4% (C). See Supplement GHI for the [full scale](#) graph.



Main findings Mifepristone



Main findings Mifepristone



Rate of OOS per mifepristone tablet test parameter

Key Outcomes

- Misoprostol
 - Significant problems persist in relation to the quality of misoprostol in LMICs.
 - Most part of the samples were packaged in ALU-ALU.
 - No correlation was found between the age of misoprostol samples when tested and the rate of OOS.
 - Manufacturing processes and compliance with international Good Manufacturing Practice (GMP), both for finished products and API, could be the primary current contributor to misoprostol product quality concerns.
- Mifepristone
 - Despite being a more stable molecule, quality concerns are also present for Mifepristone in LMICs.

Key Outcomes

Falsified Products

- The study identified one falsified misoprostol product, triggering investigations which identified further falsified products in neighbouring countries, suggesting that falsification of medical abortion drugs continues to be a serious concern that warrants proactive monitoring by national regulators.

Price

- No correlation was found between purchase price and rates of OOS samples tested across the range of product types. The perceived high cost of quality-assured medical abortion drugs as a barrier to their purchase and supply to LMICs should be investigated further.

Key Outcomes

As women and girls increasingly choose to self-manage medical abortion in line with the momentum towards self-care, rapidly improving the quality of medical abortion drugs distributed in LMICs is critical.

Product supply channels

- Domestically distributed products were much more likely to be non-compliant than internationally distributed products.
- Lack of harmonization amongst funding agencies and suppliers for purchase and supply of medical abortion drugs □ further harmonization is needed.
- LMIC markets are primarily populated by non-QA products □ manufacturers less incentivized to invest in QA of medical abortion products □ link between price and quality needs further investigation.

Key Outcomes

Medicines Regulation

Weak regulatory systems across many countries impact quality standards of medical abortion drugs in LMIC both, by allowing products which do not meet robust quality criteria into country markets as well as in manufacturing countries.

- Development of pharmacopeial monograph for mifepristone FPP and API would be supportive of resolving some of the quality issues for mifepristone.
- NRAs should require specifications of new misoprostol products to be in line with the Ph. Int. specifications.

Limitations of the study

- The study was not designed to provide estimates of the prevalence of poor-quality medicines in each country.
- The study cannot exclude problems with storage and transportation conditions affecting quality of samples obtained at client point of sale.
- Products are manufactured to a wide range of specifications and methods. Non-compliance at this study does imply non-compliance with the specifications approved in the country.
- Other quality risks for the products were not tested due to sample size limitations.

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CLINICAL ARTICLE

Gynecology

Quality testing of mifepristone and misoprostol in 11 countries

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Abstract

Objective: Previous studies have demonstrated quality concerns with misoprostol. Mifepristone, however, has not been extensively assessed for quality. Between 2020 and 2021, Concept Foundation and the International Planned Parenthood Federation conducted a study to determine the quality of these medical abortion drugs in low- and middle-income countries (LMIC).

Thank
You!

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