Gender and Access to Medicines in 15 Low- and Middle-Income Countries: Does Physician Prescribing for Men and Women Differ?

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Problem Statement: Hypotheses of gender differences in access to medicines exist but information about these is lacking.
Objectives: To assess whether gender differences exist in access to medicines for acute (Upper respiratory infections –URI) and chronic (diabetes, depression) diseases.
Setting: Private sector physicians recruited by IMS HEALTH who recorded patient age, sex, diagnoses, and medicines prescribed.
Study Population: Fifteen countries—1 low-income and 14 middle- income—from six regions: Americas (6);East Mediterranean (3); Europe (2); South East Asia (2); Africa (1) and Western Pacific (1). Between 2007 and 2010, 92,969 consultations for depression (median across countries: 1,758), 143,087 for diabetes (median 6,747), and 251,785 (median 17,224) for URI were included. Diabetes and depression consultations were defined by drug prescribed and physician's diagnosis, URI consultations by diagnosis only. Analyses limited to treated consultations.
Outcomes: Gender differences by age group defined as (1) a statistical difference in the observed number of consultations for men and women for each disease compared to the expected number (estimated based on WHO Estimated Disability Adjusted Life Years by cause tables); and (2) statistical differences between women and men in the observed proportions for new oral drugs among products for diabetes, and for different types of drugs among products for URI, compared to that compared to that expected from the observed visit numbers.
Results: A significant difference between the observed number of visits for depression and that expected was detected on 36% of 45 comparisons across countries and age groups, for diabetes on 58%, and for URI on 87%. Where a statistical difference was found, the observed number of visits was higher than expected for women on 75% of occasions for depression, on 18% occasions for diabetes, and on 44% of occasions for URIs. A statistical difference between the expected and observed number and type of prescriptions was found in fewer than 26% of comparisons made in URI and diabetes. Where a statistical difference was found in URI, the observed number was higher than expected for women twice as often as for men.
Conclusions: The present results suggest gender differences in access to medicines. Depending on country, disease, and age group, both women and men may have preferential access. These analyses may provide an important basis for addressing equity concerns in medicines policy decision making.
Funding Sources: IMS HEALTH, UK Government

Background and Setting

- Gender inequity confirmed for many different outcome indicators
- Gender inequity tends to favour men over women
- Little information on impact of gender on access to medicines

Study aims

- Does gender affect prescribing in low and middle income countries?
- If gender affects access, do men have better access than women?
- Are IMS Health prescribing data useful for the study of gender inequity?

ims

WHO Collaborating Center in Pharmaceutical Policy

Department of Population Medicine

Harvard Medical School

Harvard Pilgrim Health Care Institute

Methods

Comparisons		
Observed	**Vs**	**Expected**
Treated consultations by age and sex	Vs	Disease burden (DALYs) by age and sex
Newer oral hypoglycaemic agents by age and sex	Vs	Consultations for diabetes by age and sex

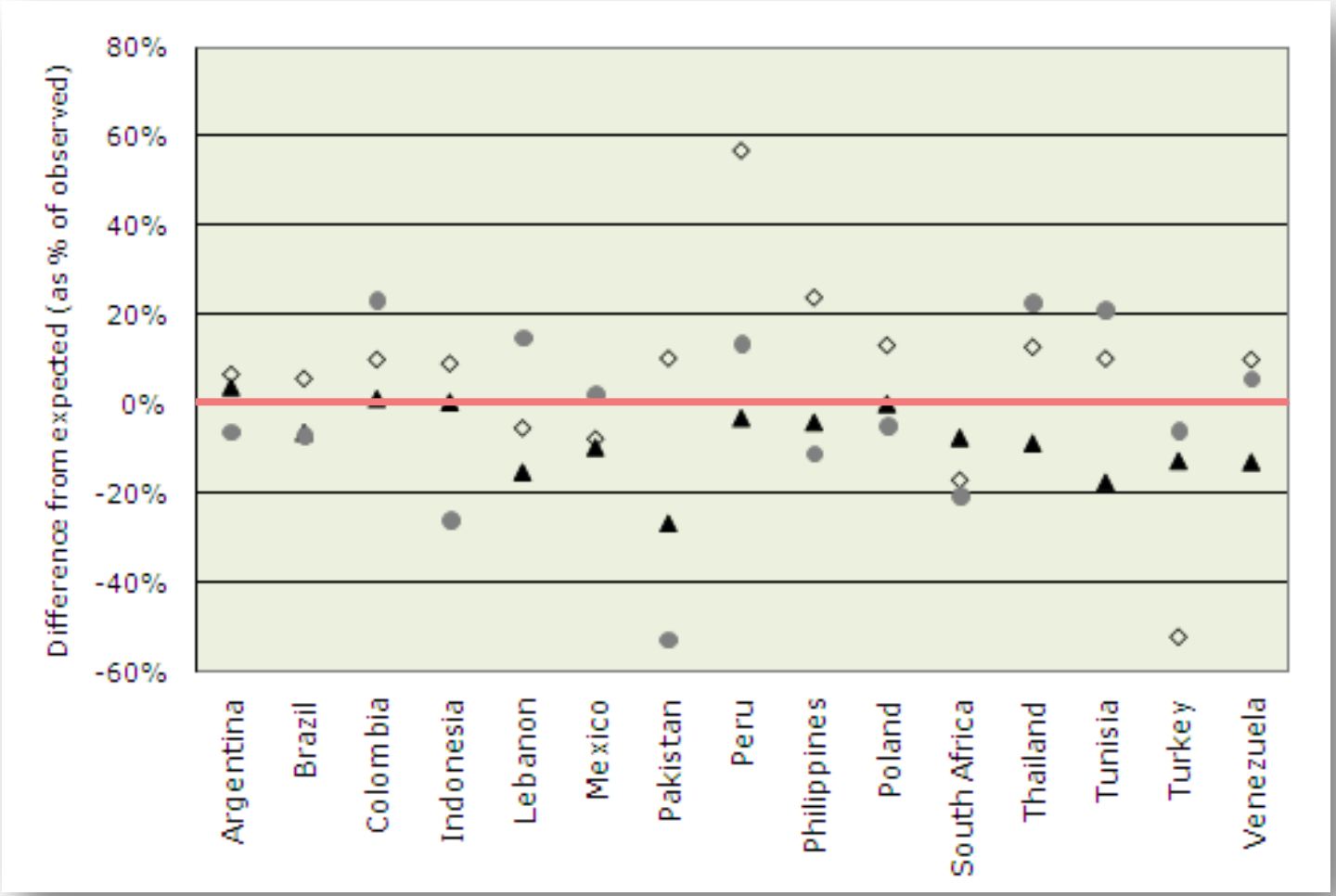
Statistical Tests
Sign Test : For direction of bias
Chi-square (1df) : For size of bias

Data

- Records of treated consultations in pre-specified periods
- 15 low and middle income countries
- Data from 2007-2010
- Variables
  - Period
  - Doctor ID
  - Consultation ID, Patient age & sex
  - Drug prescribed
  - Diagnosis
- 487,841 consultations in 3 age groups
  - Upper Respiratory Infection (URI): 251,785
  - Depression: 92,969
  - Diabetes: 143,087
  - Cells with less than 100 consultations in period excluded from statistical analysis

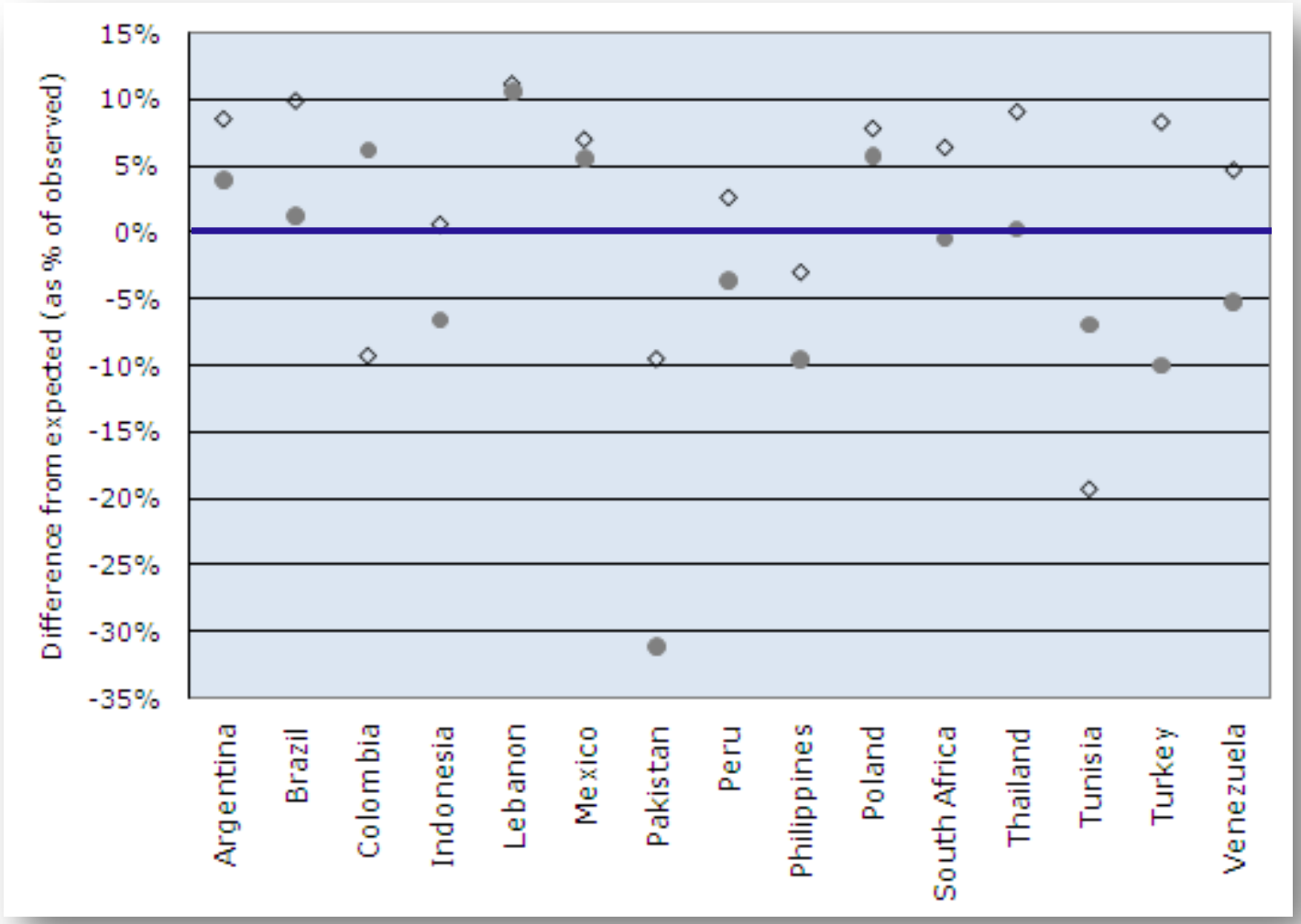
Results (1)

No evidence of bias in Upper Respiratory Infection



Results (2)

No evidence of bias in Depression



Women higher than expected

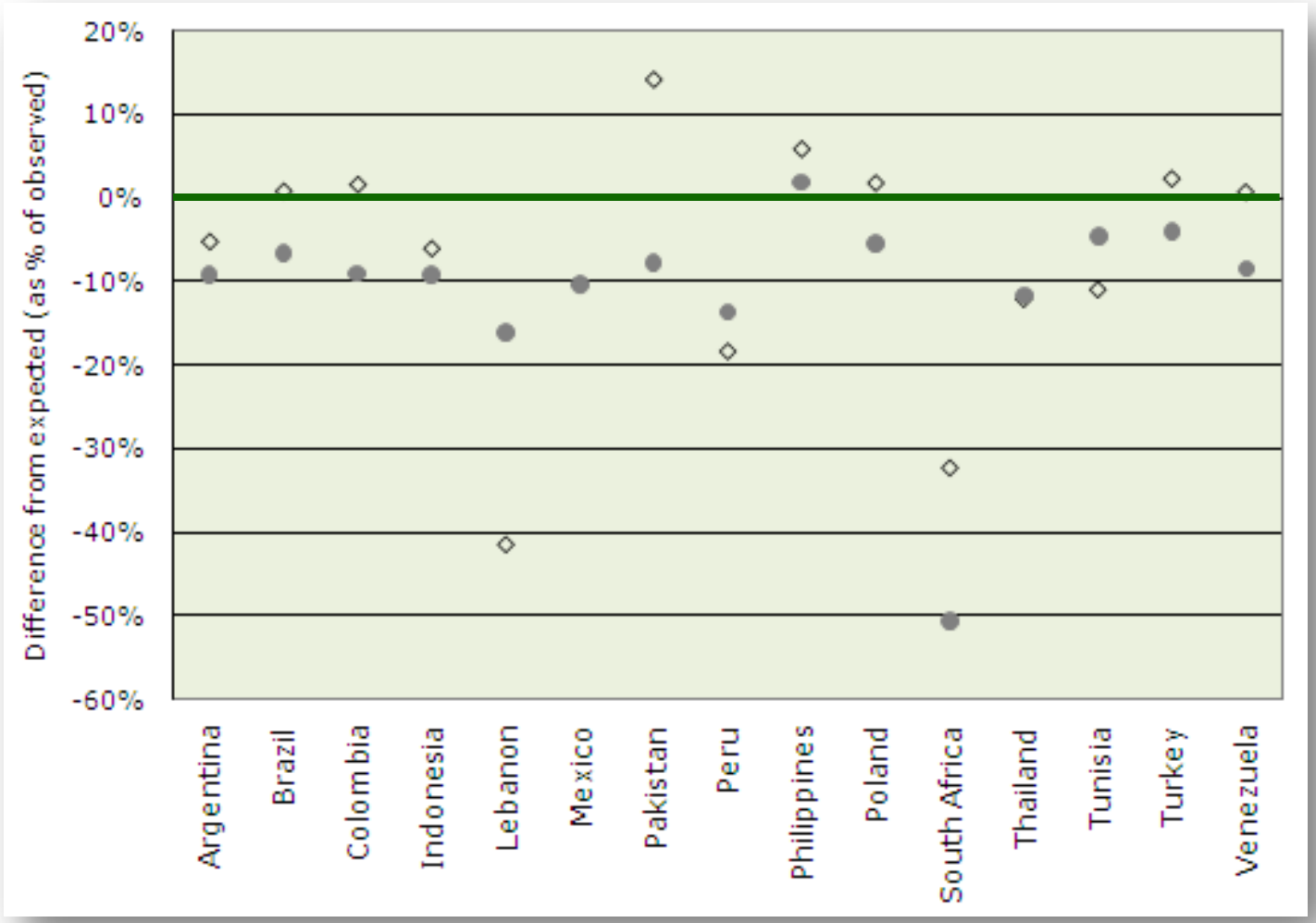
Women lower than expected

15-59 (Depression)

60+ (Depression)

Results (3)

Direction of bias in Diabetes tends towards men



Women higher than expected

Women lower than expected

15-59 (Diabetes)

60+ (Diabetes)

Results (4)

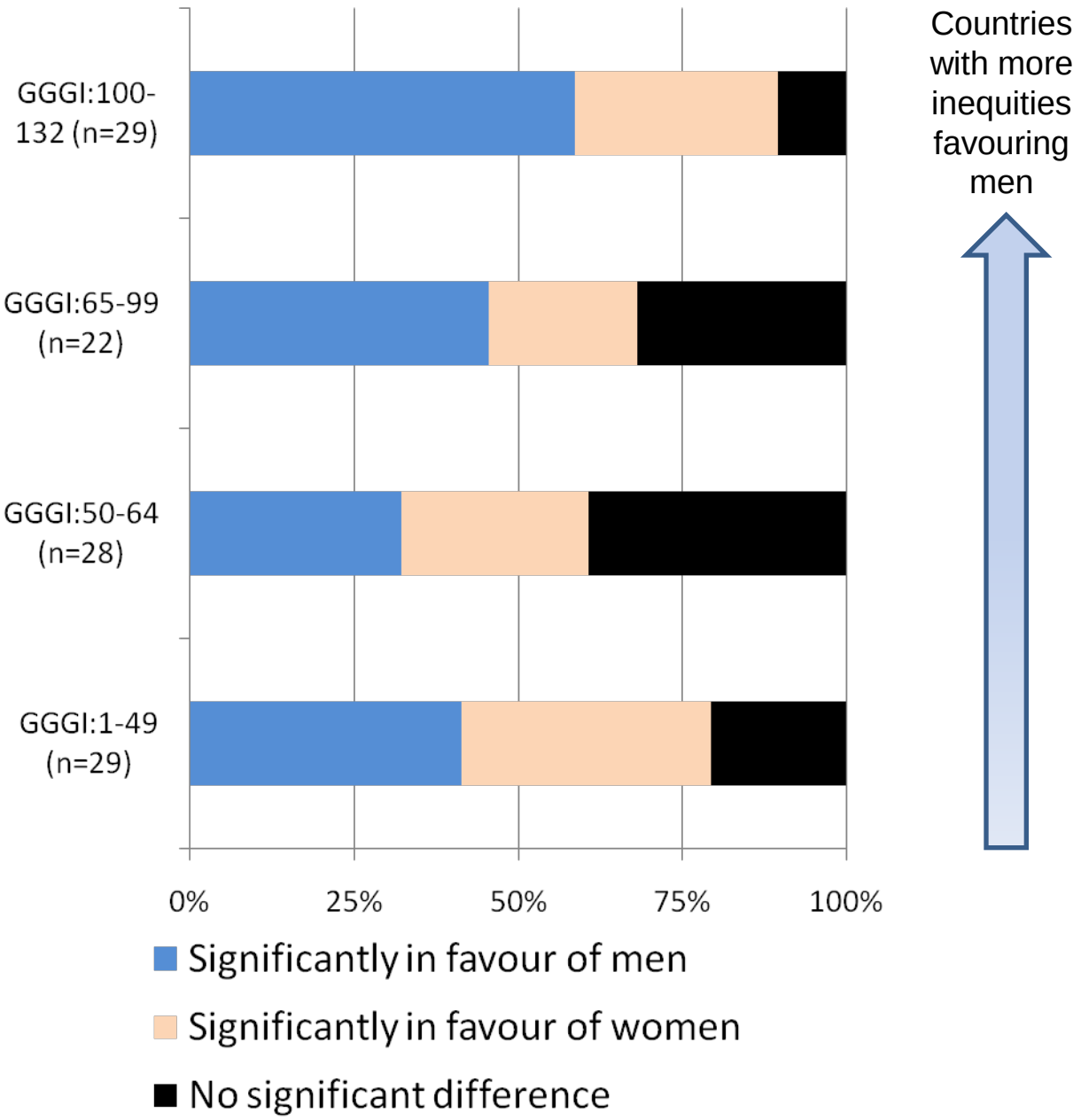
Significant bias only for diabetes

	P Value
Overall (15 countries, all 3 conditions	0.37
Acute Respiratory Infection (15 countries)	0.88
Depression (15 countries)	0.36
Diabetes (15 countries	0.02

P value calculated using Sign Test

Results (5)

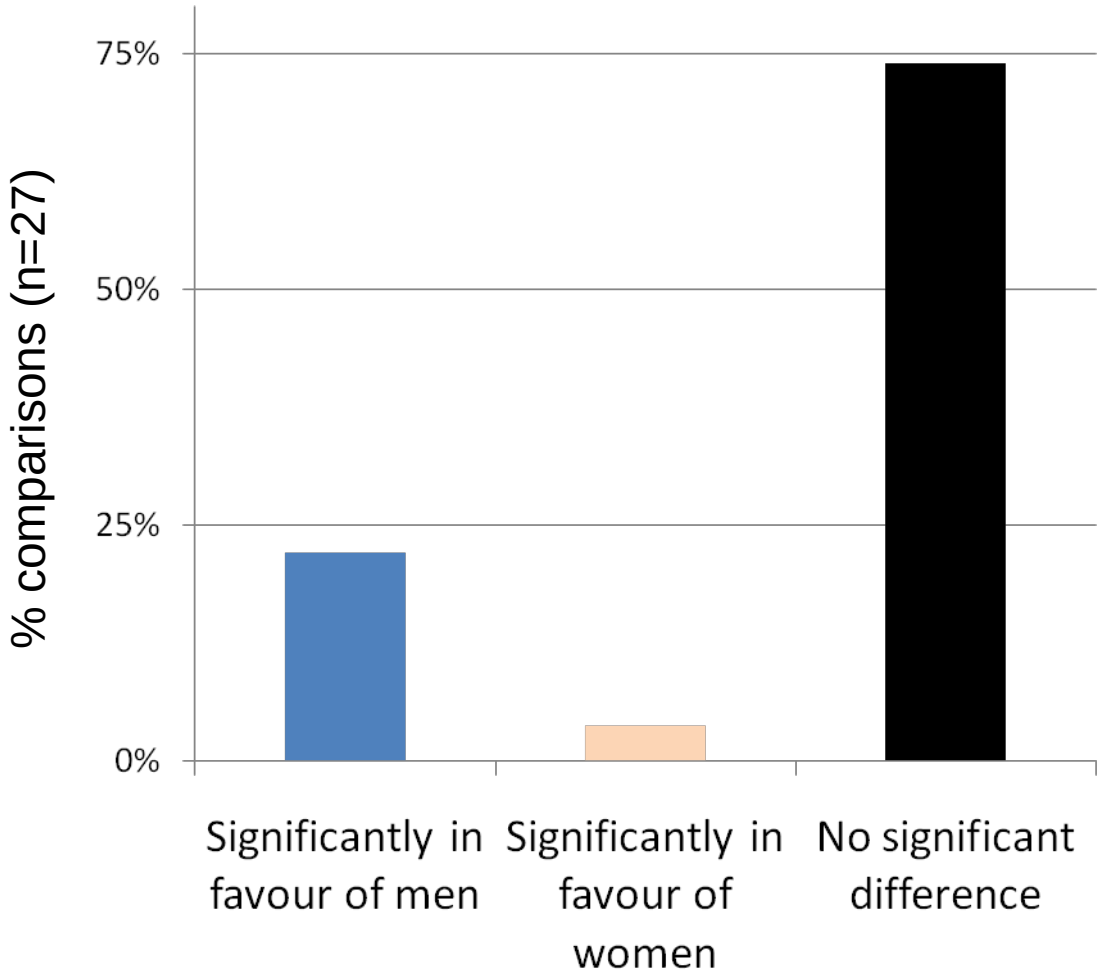
No clear relationship to GGGI



GGGI = World Economic Forum's Global Gender Gap Index

Results (5)

No bias for new oral diabetic agents



Summary

- Prescribing for women is both higher and lower than expected, contrary to hypotheses.

- Results vary by:
  - Age
  - Condition
  - Country

- Prescribing variation pattern does not match Global Gender Gap Index.

Discussion

- Prior evidence suggests inequities disadvantaging women with respect to indicators of political participation, economic power, education, health, and other spheres.
- Results from this study suggest that while inequities in access to medicines exist, they do not consistently favour me.n
- Possible reasons include:
  - IMS data are often collected in the private sector where higher education, more wealth may diminish gender inequities disadvantaging women.
  - Unmeasured factors such as deprivation, caste or regional attitudes impact both men and women and may have a stronger influence than gender on access to medicines.
- However, recent analyses of household survey data also do not suggest consistent patterns of gender inequities in access to medicines.