

Aim

To examine the relationship between diabetes prevalence over age-groups and urban/rural setting in studies used in the IDF Diabetes Atlas Update, 2014.

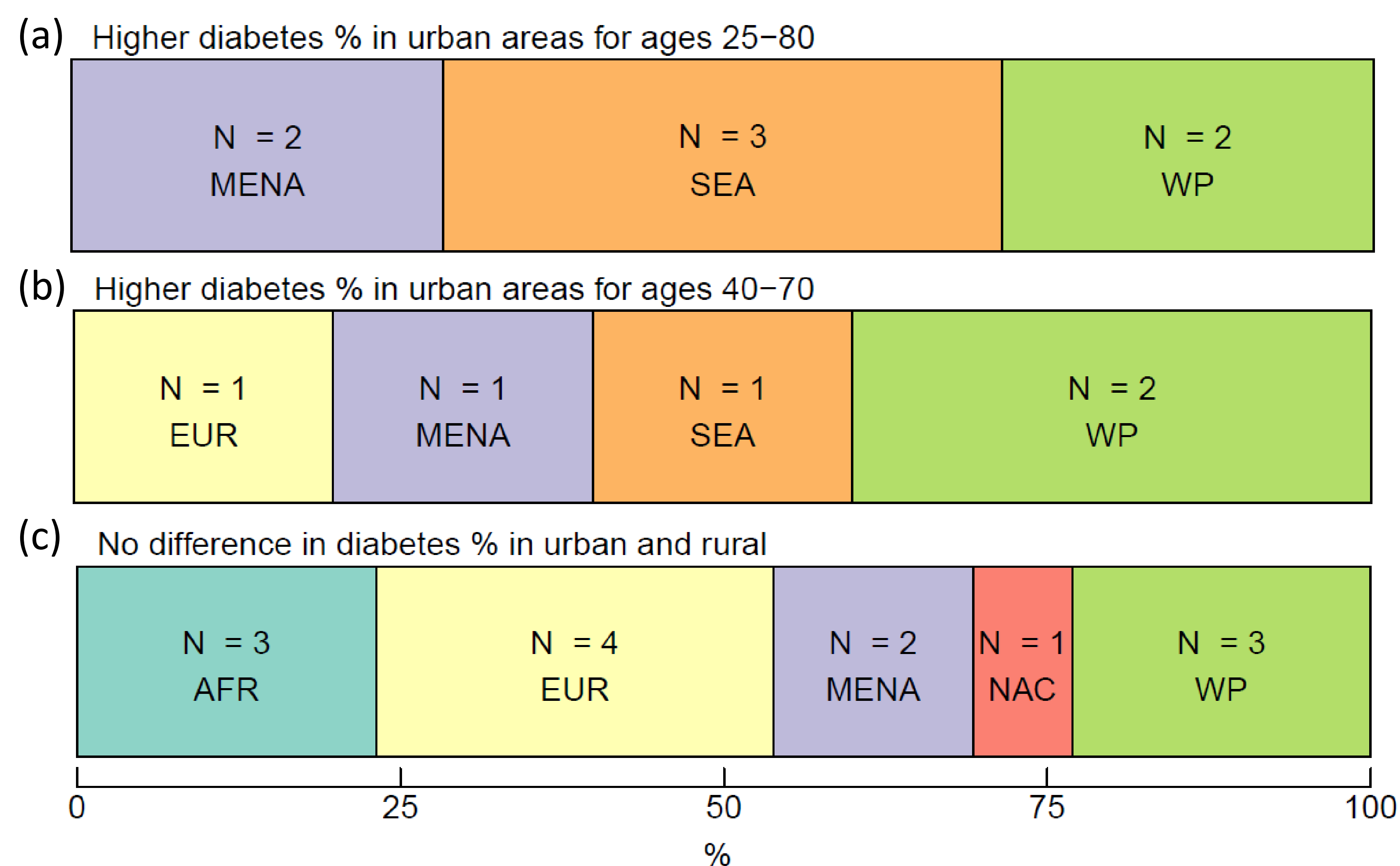
Methods

As a component of the IDF Diabetes Atlas 6th Edition, 2014, a literature search of studies reporting age-specific prevalence for type 1 and 2 diabetes was conducted and the Analytic Hierarchy Process was used to systematically select studies for inclusion. Logistic regression was applied to generate smoothed age-specific prevalence estimates for adults 20-79 years which were then applied to UN population estimates for 2014. From the **173 studies** that were used for the IDF Diabetes Atlas estimates, only **26 studies (15%) from 25 countries** contained data for both rural and urban territories that was reported separately. The age profiles of diabetes prevalence were compared for those countries with rural/urban data using 95% confidence intervals.

Results

Fisher's Exact Test for Count Data with simulated p-value (based on 2000 replicates) detected no significant variation (**p-value = 0.26**) in the frequencies of observing differences of diabetes prevalence between rural and urban areas over three income groups and no significant variation (**p-value = 1.00**) in the frequencies of observing differences of diabetes prevalence between rural and urban areas over IDF regions (Figure 1).

Figure 1: Distribution of countries over IDF regions (left) and examples of age-specific diabetes prevalence curves (right) and for three groups where there is a difference in in diabetes prevalence between urban and rural areas (a) between the ages of 25 – 80, (b) the ages of 40 – 70, and (c) where no difference is detected.



In 7 out of 25 countries diabetes prevalence was significantly higher in urban settings, compared to rural settings (25 -80 years)

In 5 out of 25 countries diabetes prevalence was significantly higher in urban settings compared to rural settings for the middle aged population (40 - 70 years)

In 13 out of 25 countries there was no significant difference in diabetes prevalence between urban and rural settings over age (20-80 years)

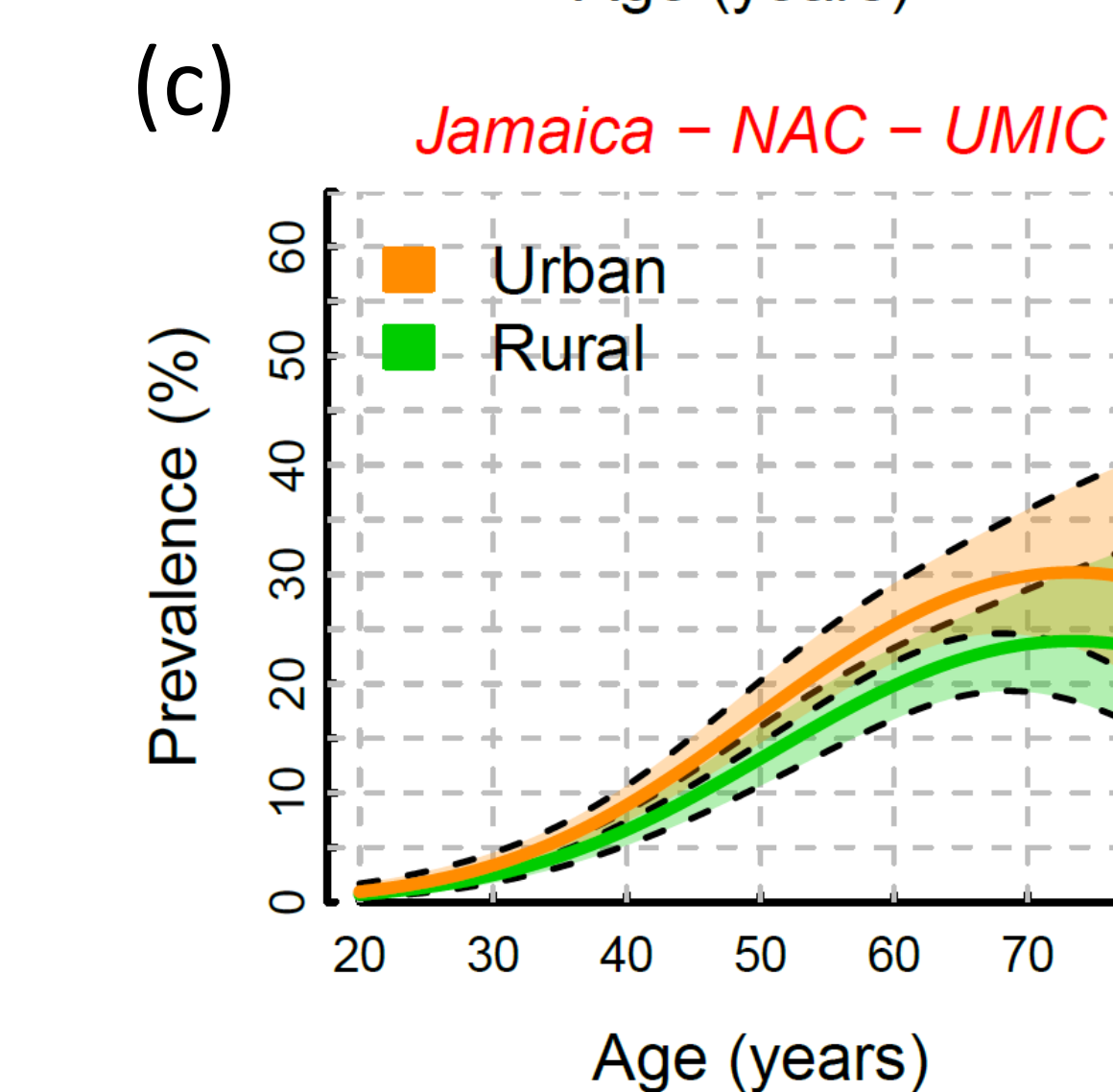
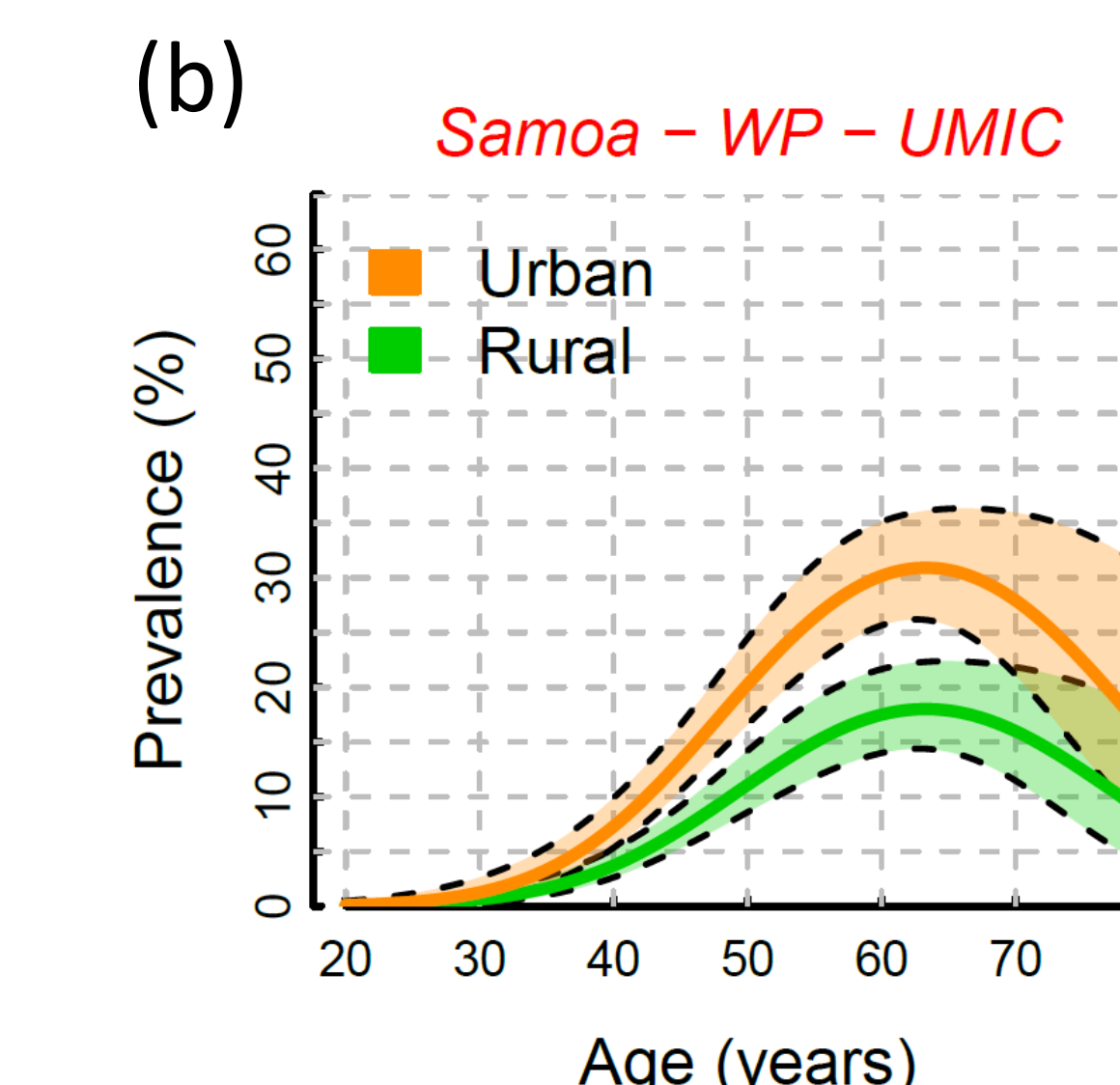
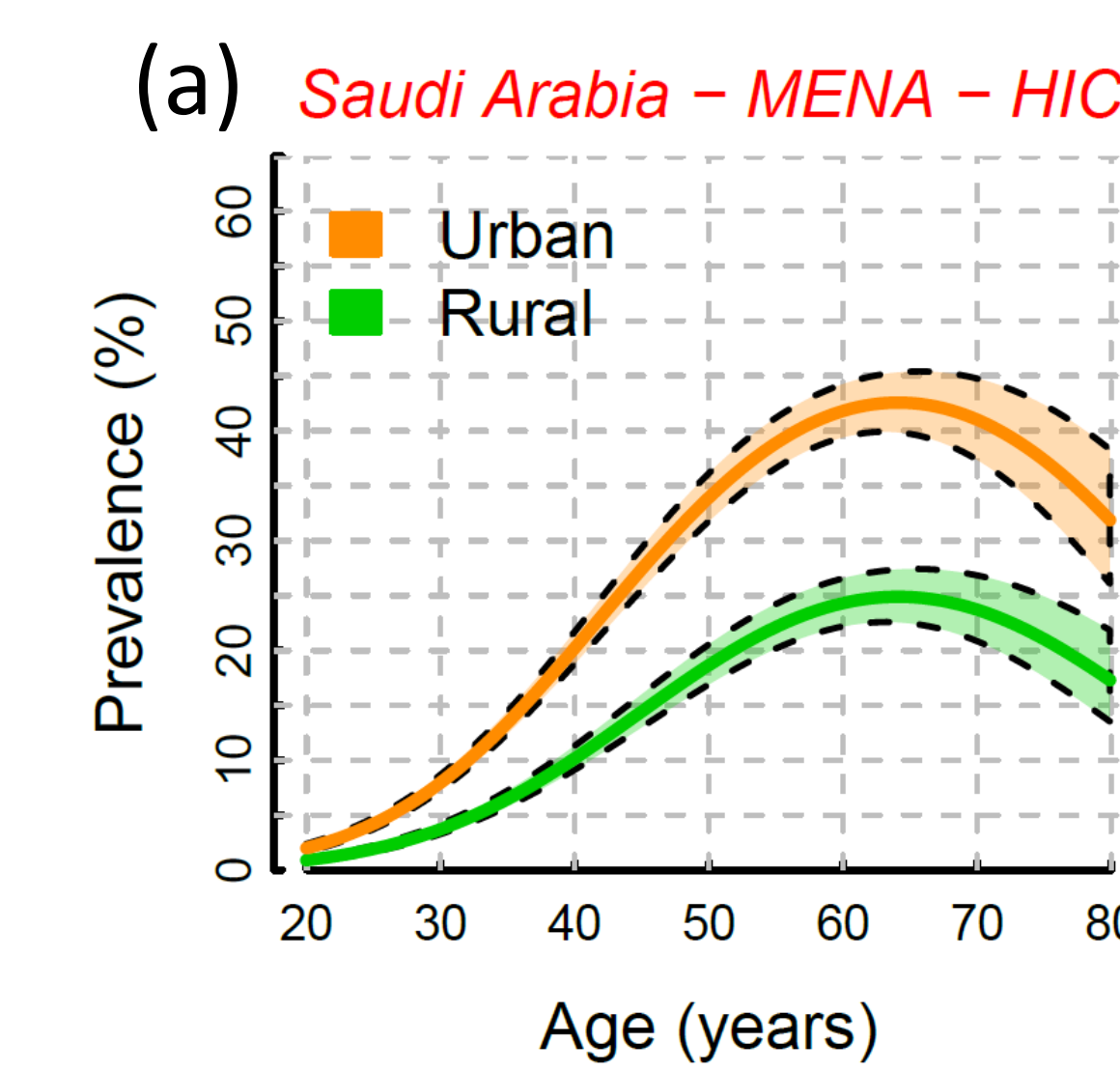


Table 1: List of countries analysed in the study.

IDF region	Income group	Country	Difference in diabetes in urban and rural
AFR	LIC	Gambia	NO
AFR	LIC	Guinea	NO
AFR	LIC	Mozambique	NO
EUR	MIC	Hungary	NO
EUR	MIC	Romania	NO
EUR	MIC	Turkey	for ages 40-70
EUR	MIC	Uzbekistan	NO
EUR	HIC	Greece	NO
MENA	MIC	Islamic Republic of Iran	NO
MENA	MIC	Pakistan	NO
MENA	MIC	Tunisia	for ages 25-80
MENA	HIC	Oman	for ages 40-70
MENA	HIC	Saudi Arabia	for ages 25-80
NAC	MIC	Jamaica	NO
SEA	LIC	Bangladesh	for ages 40-70
SEA	LIC	Nepal	for ages 25-80
SEA	MIC	India	for ages 25-80
SEA	MIC	Sri Lanka	for ages 25-80
WP	MIC	China	for ages 40-70
WP	MIC	Fiji	NO
WP	MIC	Malaysia	NO
WP	MIC	Philippines	for ages 25-80
WP	MIC	Samoa	for ages 40-70
WP	MIC	Thailand	for ages 25-80
WP	HIC	Republic of Korea	NO

Abbreviations

IDF Regions: Africa (AFR), Europe (EUR), Middle East and North Africa (MENA), North America and the Caribbean (NAC), South and Central America (SACA), South-East Asia(SEA), and the Western Pacific (WP)

World Bank Income groups: low-income (LIC), lower middle-income (LMIC), upper middle-income (UMIC), and high-income (HIC)

Conclusion

In one half of the countries analysed, there was no significant difference in age-specific (age range 20-79 years) diabetes prevalence in urban and rural settings. Countries where no difference was detected are present in all regions and income groups.

In all the countries where a difference was found, the diabetes prevalence was higher in urban settings, compared to rural settings.

In all studies where it is possible, diabetes prevalence should be reported separately in urban and rural communities. This would enable the association between diabetes and urban/rural setting to be analysed in more detail.

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