Characteristics of Food Environments that Influence Food Acquisition and Diets of Women in LMICs: a systematic scoping review

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Background

- Women of reproductive age (WRA) in low- and middle-income countries (LMICs) carry a disproportionate burden of malnutrition.
- Little is known about the key food environment drivers of diets for women, and other vulnerable groups, in LMICs.

Objective

- To identify the key food environment characteristics that influence food acquisition practices and dietary intake of WRA in LMICs.
- To refine food environment frameworks for this vulnerable group.

Methods

- **Systematic scoping review**
- **Inclusion**
  - Women (15 – 49 y)
  - Food environment drivers (inductive)
  - Food acquisition and/or dietary intake outcomes
  - LMICs (World Bank, 2021)
  - English, Spanish, Portuguese, French
  - Quantitative, qualitative, mixed, review
- **Searched**
  - 21 databases across 3 platforms (Figure 1)
  - 1 January 2010 – 31 July 2021
- **Synthesis**
  - Mapped factors influencing food acquisition and dietary intake against existing food environment frameworks to identify novel dimensions.
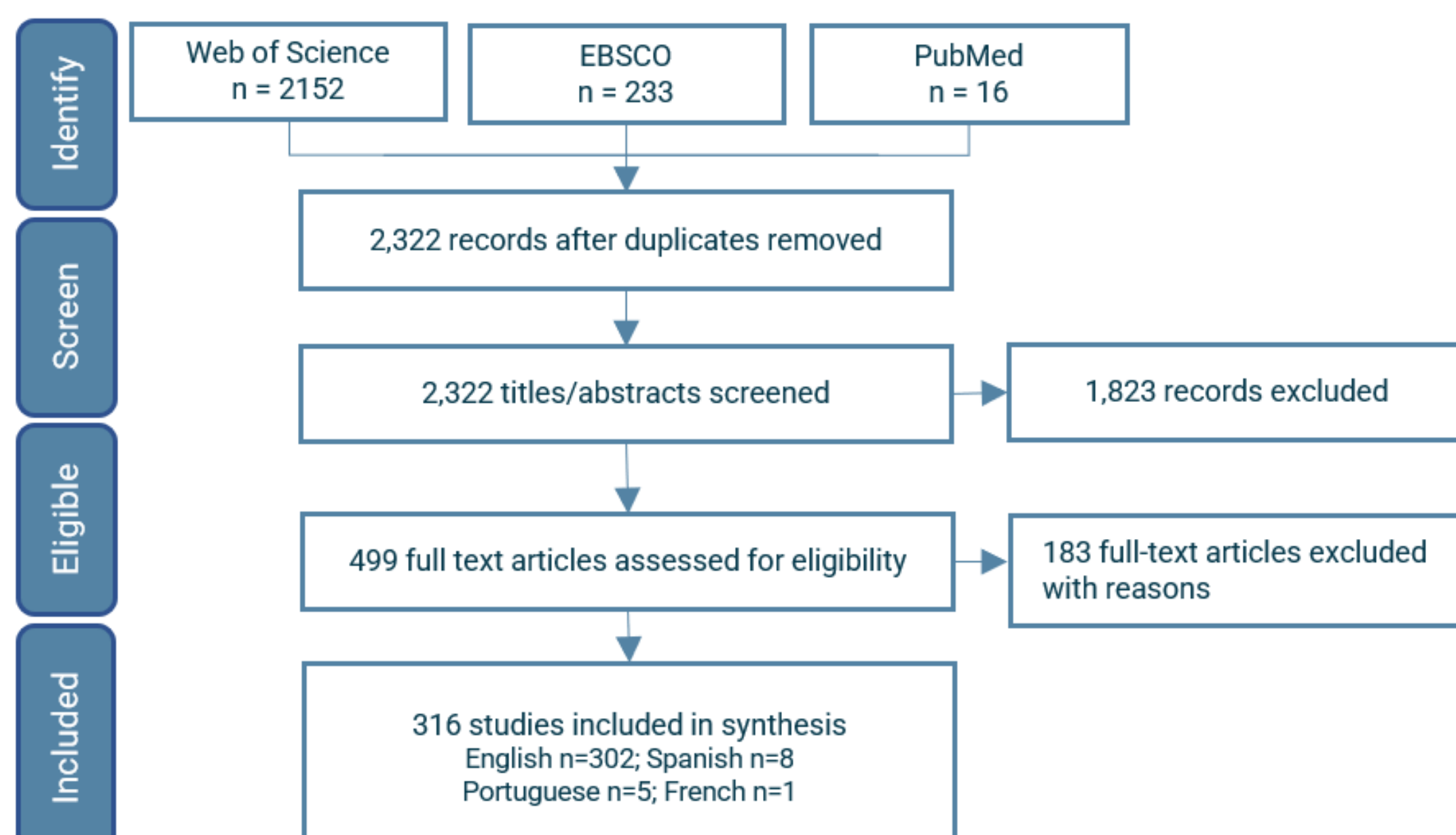- **Protocol published**
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Figure 1: PRISMA flow chart of study selection.

Table 1: Number and percentage of included studies, by food environment characteristic and location.

|	All	East Asia & Pacific	Europe & Central Asia	Latin America	Middle East & North Africa	South Asia	Sub-Saharan Africa	Multi-region
National, regional or institutional levels								
Availability	50.9%	6.0%	0.3%	7.6%	0.0%	11.1%	24.1%	1.9%
Vendor/product properties	24.4%	3.8%	0.3%	7.0%	1.6%	5.4%	5.4%	0.9%
Prices	18.0%	2.8%	0.3%	5.4%	0.6%	2.5%	5.4%	0.9%
Marketing and regulation	10.1%	1.9%	0.0%	2.2%	0.3%	1.6%	2.8%	1.3%
Household or personal levels								
Food literacy	56.0%	7.9%	0.6%	9.2%	5.7%	12.0%	19.6%	0.9%
Affordability	50.0%	8.2%	0.3%	9.5%	4.7%	8.9%	16.8%	1.6%
Accessibility	43.0%	6.6%	0.3%	7.0%	1.6%	9.8%	15.2%	2.5%
Food preferences	37.3%	5.7%	0.3%	8.9%	1.9%	9.8%	10.4%	0.3%
Social and cultural forces	23.7%	2.5%	0.0%	5.7%	0.3%	7.9%	7.0%	0.3%
Convenience and time use	15.8%	2.8%	0.0%	3.8%	0.0%	4.4%	3.8%	0.9%
Social capital	12.7%	0.9%	0.0%	4.1%	0.6%	3.2%	3.8%	0.0%
Food safety perspectives	7.3%	1.9%	0.0%	1.6%	0.3%	1.3%	1.9%	0.3%
Cross-cutting								
Women's agency / autonomy	28.8%	1.3%	0.0%	4.4%	1.3%	9.5%	11.4%	0.9%
Food security	22.2%	2.5%	0.0%	3.5%	1.6%	5.1%	9.5%	0.0%
Stability or sustainability	18.4%	1.9%	0.0%	2.2%	0.0%	3.8%	10.4%	0.0%

Results
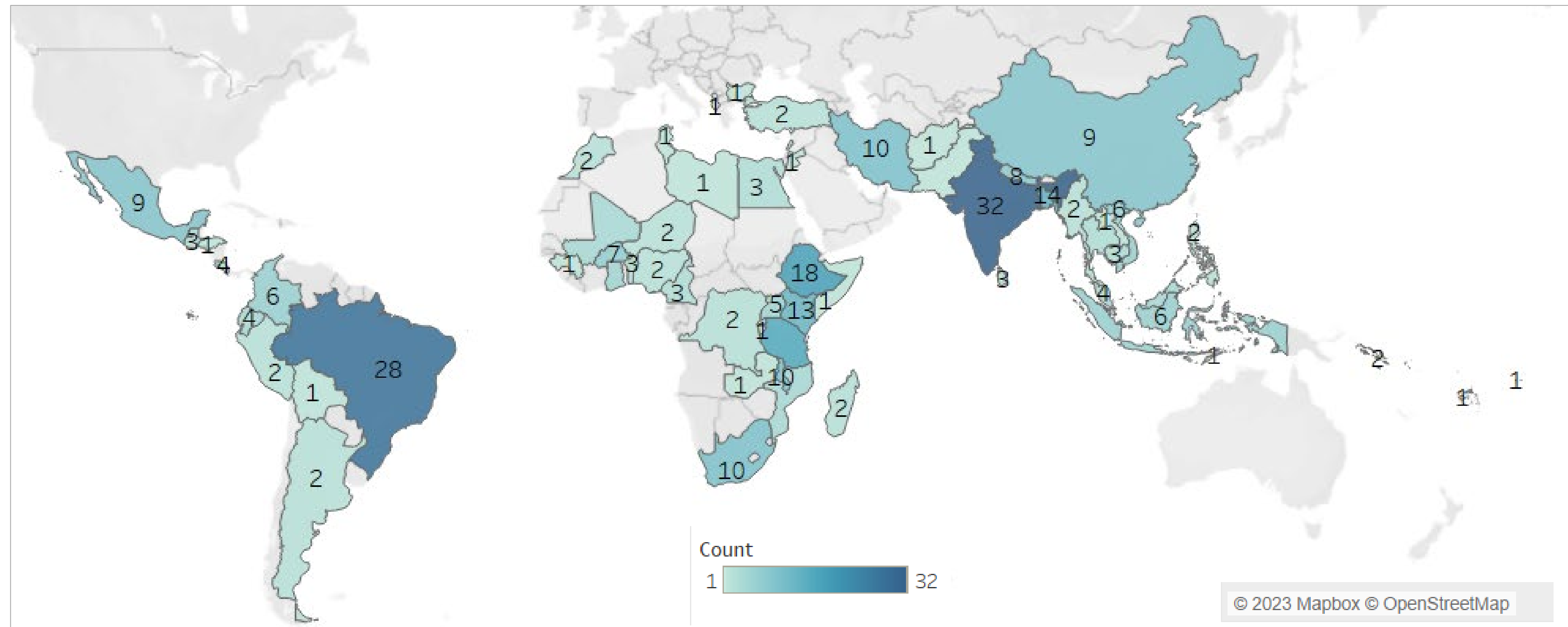
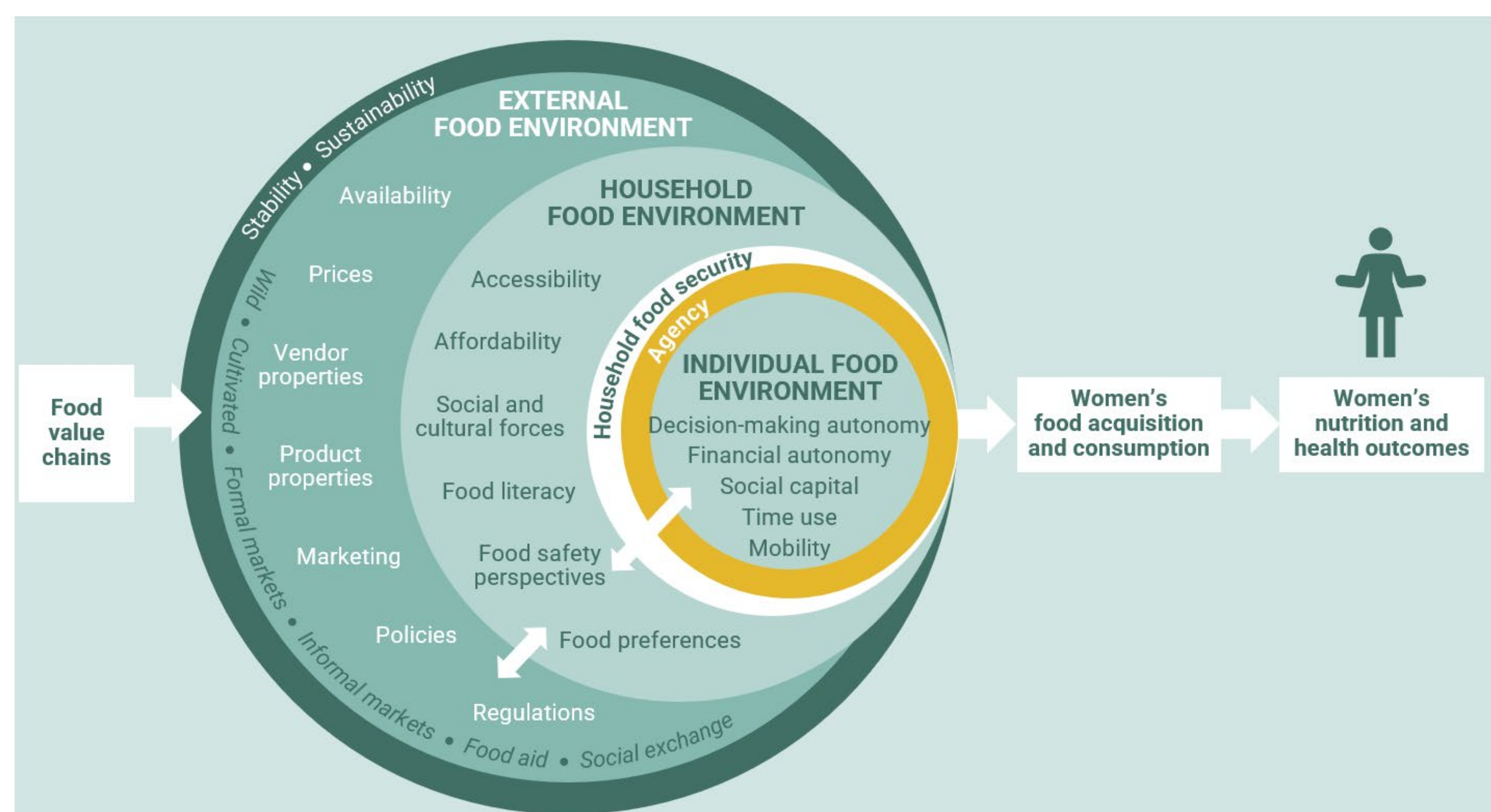**Figure 2**: Number of included studies per country.

Figure 3: Conceptual framework of women's food environments in LMICs.
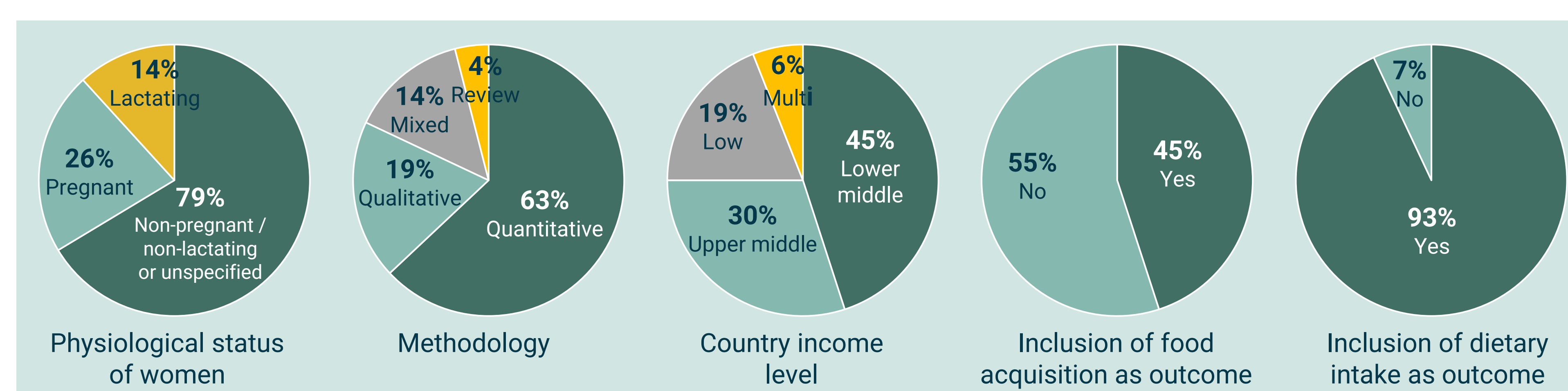

Figure 4: Descriptive summary of included studies.

Key findings

1. **Factors influencing women's food acquisition and diets**
   - **Women's personal agency / autonomy**
     - A key mediator of food acquisition and dietary intake
     - Shaping financial, social, temporal, spatial and other influences on food access and intake.

2. **Contribution of this revised conceptual framework**
   - **Refined household and personal level drivers**
   - Identify **research needs** and analyses
   - Target key **leverage points to improve women's nutrition**

3. **Identified gaps in research**
   - Studies which explicitly apply food environment concepts and frameworks, especially **mixed methods studies**
   - Pregnant and **lactating women**
   - **Food acquisition**
   - **Quantification of macro- and micronutrient intakes**
   - Under represented regions/countries, especially **low-income countries**

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