

Water insecurity potentially undermines dietary diversity of children aged 6-23 months:

Evidence from India

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Rationale

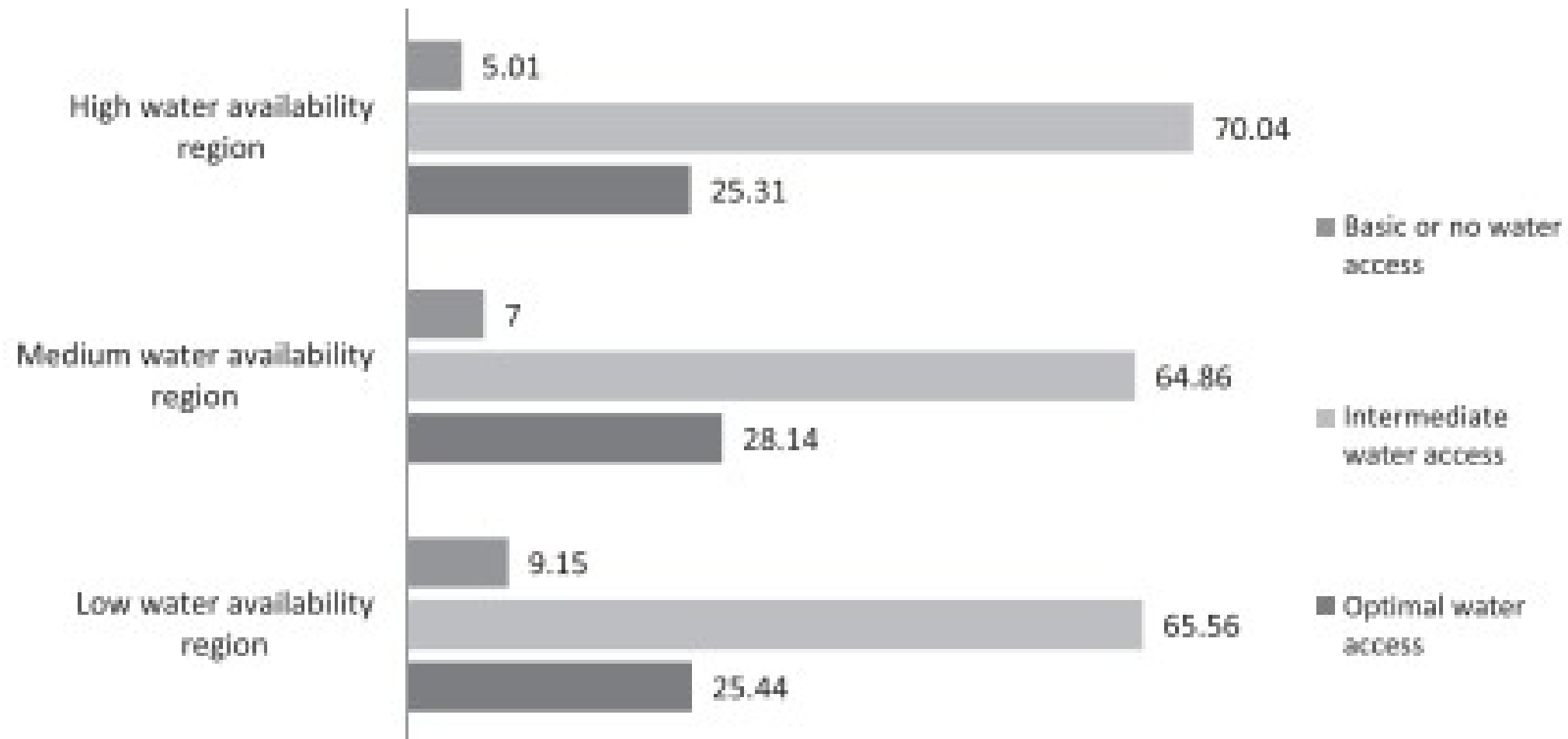
- Water and child nutrition linkage primarily considered through WASH mechanism
- Need to broaden the framework on this linkage
- Dietary diversity a potential pathway within this linkage

Key question?

- whether suboptimal household water access and low regional water availability associate with lower dietary diversity among young children?

Methods/Analysis

- DHS 2015-16
- Sample of 69,841 children aged 6–23 months
- Minimum Dietary Diversity [WHO 2010]
- Household water access- optimal, intermediate and limited/basic [Howard & Bartram 2003, WHO/UNICEF 2017]
- Regional water availability - low, medium, high [based on surface water availability Index, WBCSD 2019]
- Other known correlates
- Probit regression



Source: Choudhary et al. 2019

Proportion of different levels of water access within each regional water availability region
[in percentage]

Results

	Household water access			Regional water availability		
	Optimal	Intermediate	Basic/limited	Low	Medium	high
Proportion achieved Minimum Dietary Diversity [in percentage]	23.0 (0.0031)	19.22 (0.0018)	18.0 (0.0048)	13.7 (0.0038)	23.15 (0.0044)	27.9 (0.0073)

Overall, **19.8** percent

Results [Contd.]

Variables	Marginal effect at means [Standard Error]
Access to water (Ref: Optimal)	
Intermediate	-.0198** [.0037]
Basic or no access	-.0209** [.0058]
Regional water availability (Ref: Medium water availability)	
Low water availability	-.0924** [.0047]
High water availability	.0287** [.0061]

Results: Key Covariates

Both household water access and regional water availability context are associated with child's access to dietary diversity

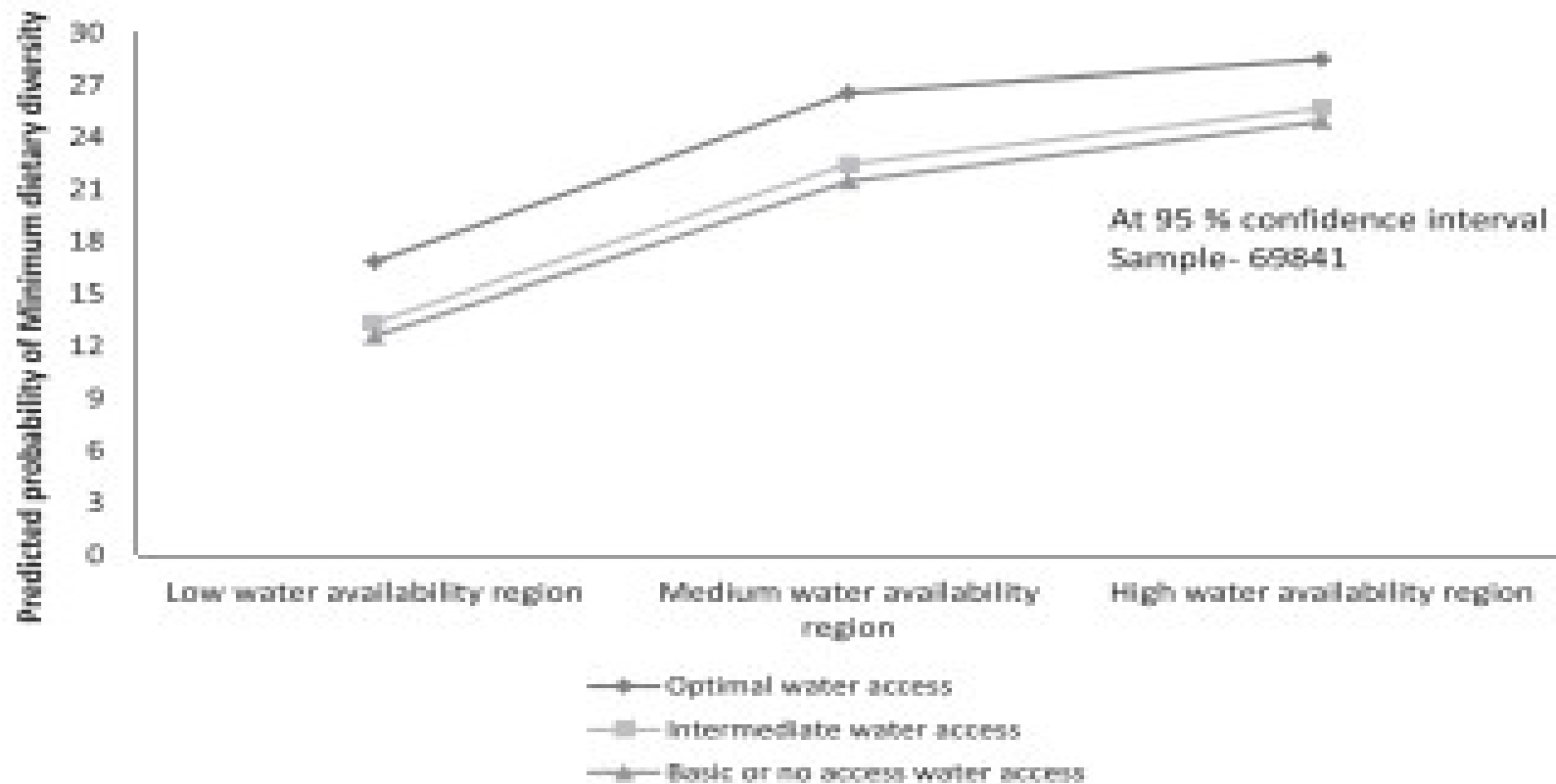
Results [Contd.]

Variables	Marginal effect at means [Standard Error]		
	High water availability	Medium water availability	Low water availability
Access to water (Ref: Optimal)			
Intermediate	.0775** (.0079)	-.0626** (.0081)	-.0183** (.0053)
Basic or no access	-.0057 (.0095)	-.0146 (.0120)	-.0017 (.0086)

Results: Key Covariates/ separate for each region

The relationship between household water access and child's access to MDD is variable across regional water availability contexts

Results [Contd.]



Source: Choudhary et al. 2019

- highest in case of households with optimal water access within HVAR (28.5%) and lowest in households with basic water access in LVAR.
- even within households with optimal water access in LVAR, the probability of child achieving MDD is lower than households with intermediate and limited water access in both HVAR and MVAR.

Implications

- Sub-optimal household water access can affect dietary diversity through availability, access and utilization dimension in context of gendered and competing demands on caregiver time
- At regional level, water availability can affect child's dietary diversity by altering the food availability dimension through its contribution to agricultural and allied activities
- Children living in regions of higher water availability are relatively buffered.
- Role of water in shaping access to dietary diversity among children can be leveraged for nutritional improvements, given that dietary diversity is central to child nutrition.
- An additional window for nutrition policy and intervention.
- Further research - how household water access and community/ regional water context interact and are mediated by the gender dimension

Thank you