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The U.S. Government's Global Hunger & Food Security Initiative

Nutrition and food safety perception

Safe Food Fair Food Cambodia Final Meeting
21-22 June, 2021



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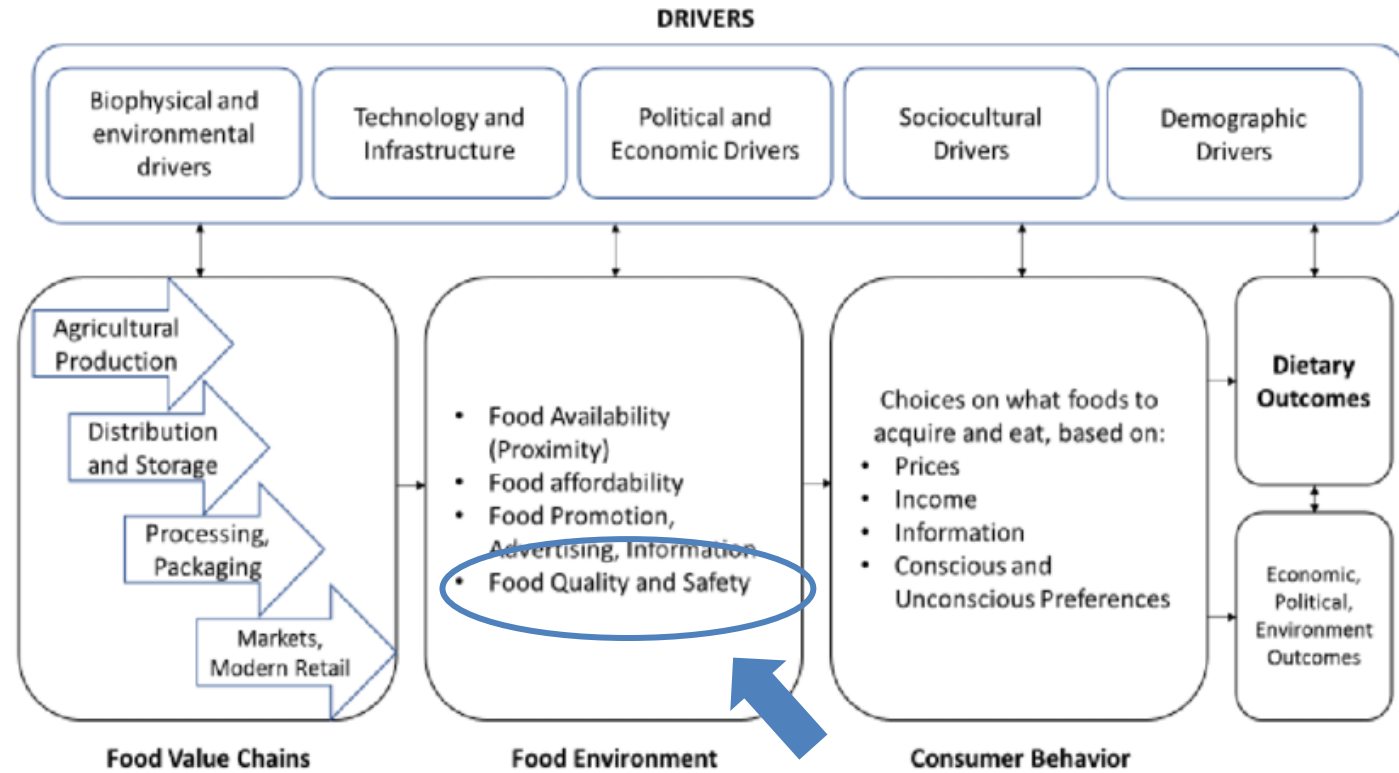


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Food safety is a key component of food environment & food system



Conceptual framework of food systems for diets and nutrition (IFPRI 2019)



SFFF MIXED METHODS RESEARCH



“Our food may not be very safe, because nowadays everything uses chemicals:”

Women’s Perceptions of Food Safety and Nutrition in Phnom Penh, Cambodia

Sydney Morgan Brown¹, Hung Nguyen-Viet,² Delia Grace,² Chhay Ty³, Pok Samkol³, Huy Sokchea³, Son Pov³, Melissa F. Young¹ *Under review BMJ Global Health*

Qualitative



Maternal perceptions of food environment are associated with low consumption of meat, fruits and vegetables in mothers and children living in urban Cambodia.

Duong MC, Ty C, Samkol P, Nguyen-Viet H, Grace D, Young MF. *Under review Public Health Nutrition.*

Quantitative





1) Qualitative Nutrition Research

OBJECTIVE

To determine women's perception of the risk of food safety and how it relates to diet, health and decision making.

METHODOLOGY

Interviewed 24 caregivers (grandmothers & mothers) responsible for care of a child under 5 five in Phnom Penh, Cambodia,

Used [Photo Voice approach](#), which allowed the women to photograph their meals and perceptions of food safety and nutrition





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3 MAIN RESULTS



Chemicals affecting food:
"Because nowadays there are many chemical-injected meats. A few days ago, I bought half kilogram of pork. It smelled very bad...I then tried to marinate it and dried it under the sun; however, it still had bad smell."



Caught fish as safe: *"If we had vast plain land, we would dig a pond and raise fish by ourselves. It's easy eating and doesn't have chemicals. But there is no land. I can only afford this house."*



Cleaning Strategies: *"Blanch to get rid of that stuff. I even clean it for three or four times. I soak it to eliminate the contaminated substances. I am afraid that they are exposed or are injected with chemicals. I'm afraid that it would cause diarrhea when eating."*



Chemicals affecting health:
"I'm afraid that it will affect the baby because of those chemicals in the vegetables. It is okay for us to eat them but the baby in the womb cannot handle all those chemicals."



Home grown as safe: *"I want to show that natural vegetables are hygienic and good for health. We should plant those vegetables such as banana tree, ivy gourd....by ourselves are better than buying from the market."*



Purchasing Strategies: *"I buy the better-looking ones. For vegetables, if they don't look good, I don't buy them ... But on the goodness, if they look too good, I don't buy it either. If there's some caterpillar or something, we can wash them more. Those don't have as many chemicals."*

(1) Caregivers worried that chemicals fresh produce may affect the health of their families

Finding 2: Caregivers lacked trust in wet markets, favouring wild-caught & home-grown fresh produce

Finding 3: Caregivers employed cleaning & purchasing strategies to mitigate food safety risk

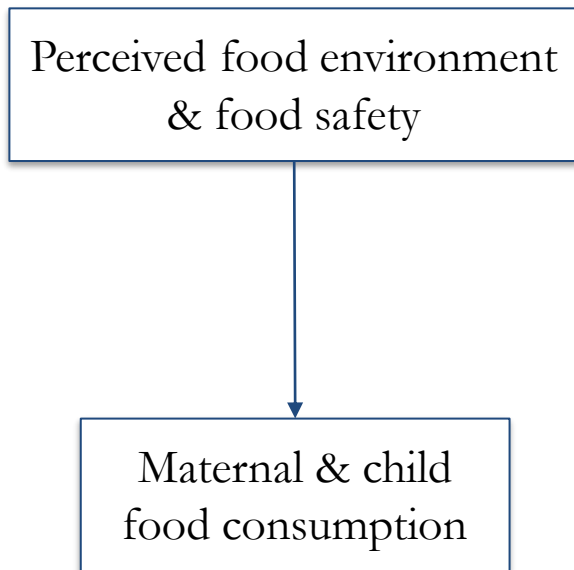


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2) Quantitative Nutrition Research



OBJECTIVE

Examine the association between perceived food environment, which incorporates food safety perception, with maternal food consumption and child consumption

METHODOLOGY

Study design: A cross-sectional survey with mothers of children 6 – 24 months old living within 2 km (1 mile) from a wet market (Jan 2019)

Final analytical size: 99 women-child pair in Phnom Penh & 99 in Siem Riep.

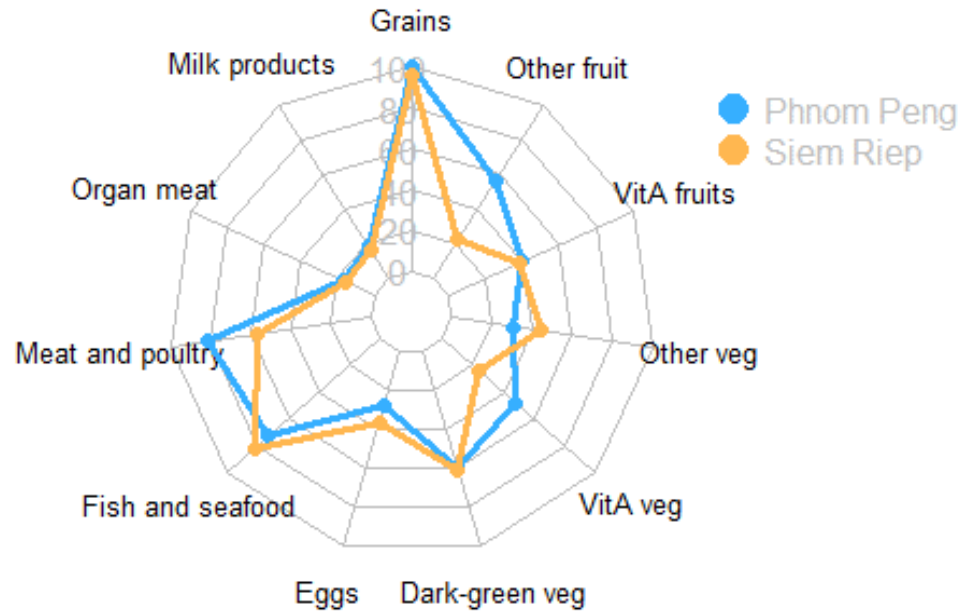
Data: maternal & child weekly food consumption, maternal & child dietary diversity, food security, food environment perception and food safety perception & 24 h recall study

Perceived food environment & food safety score: averaging 8 perception questions

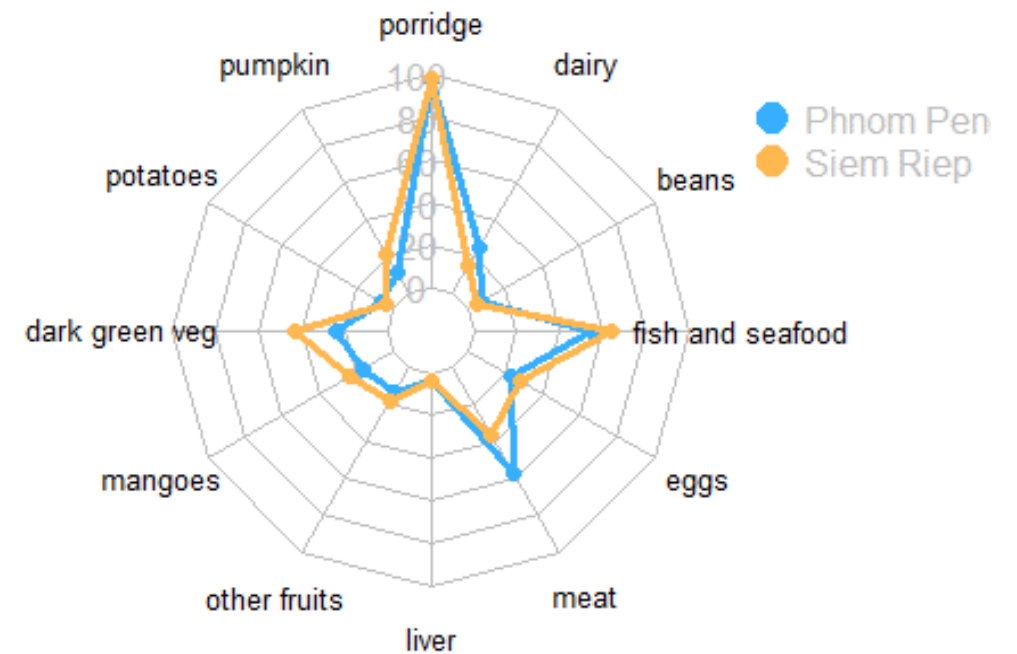


Result: maternal & child dietary diversity

% women who consume individual food items



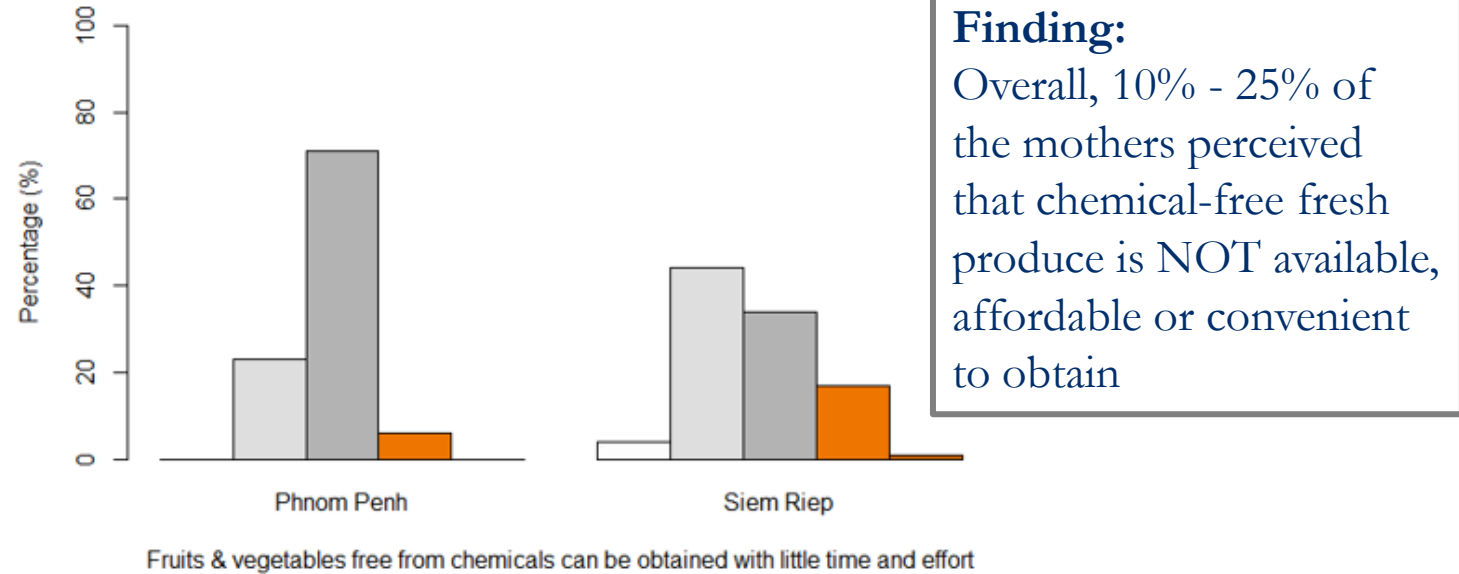
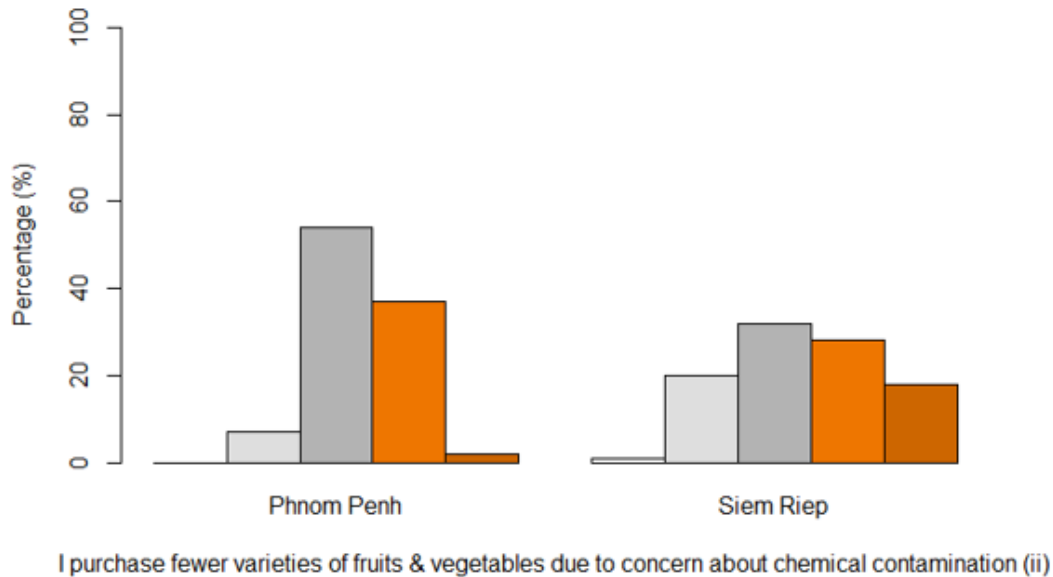
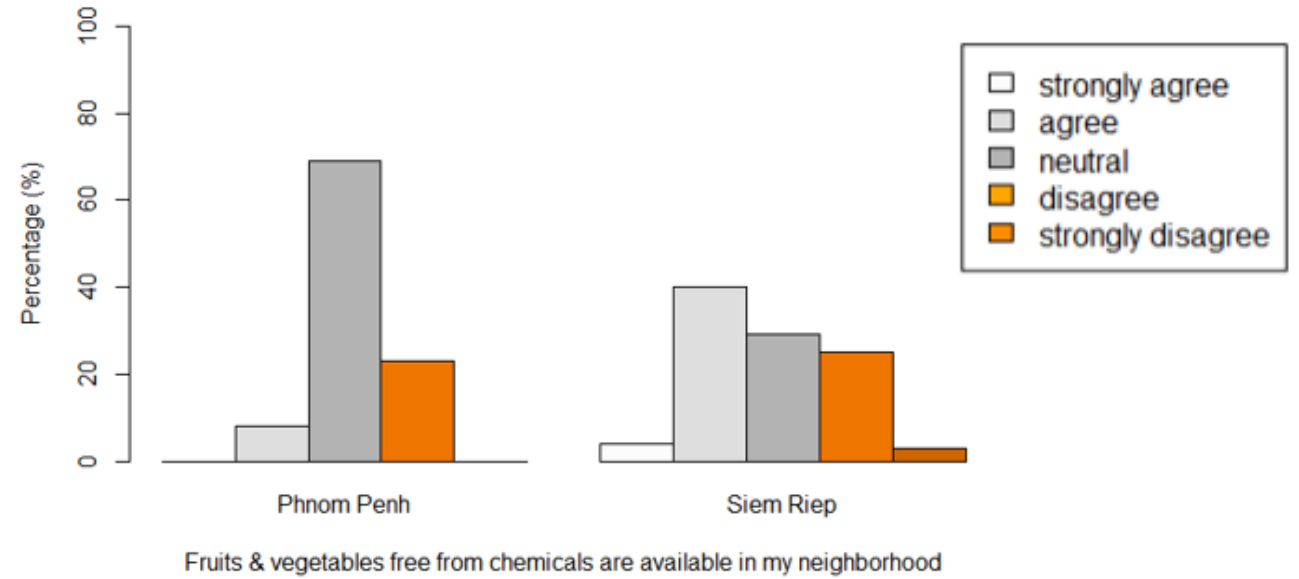
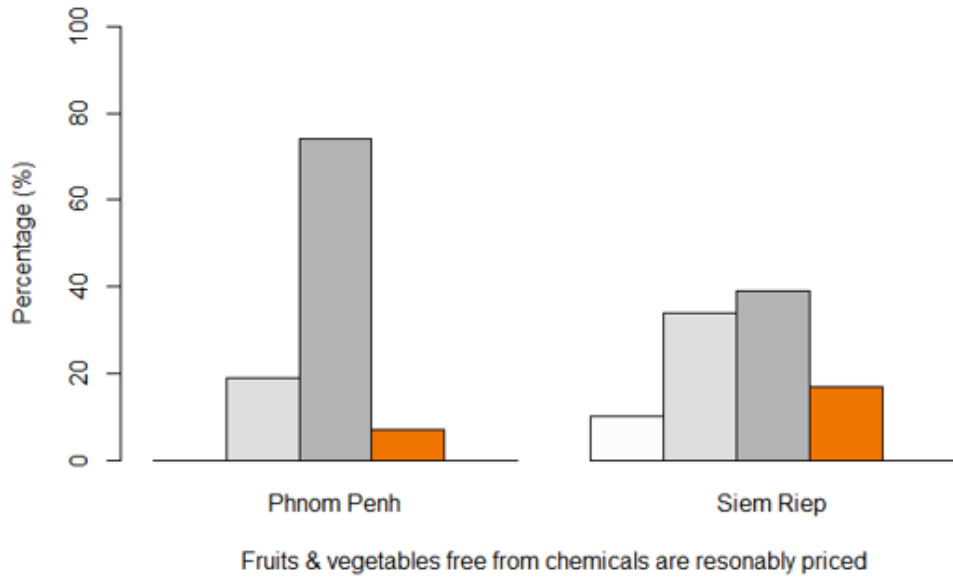
% children who consume individual food groups



Finding: Mothers & children had a low consumption of eggs and vitamin-A-rich fruits but good consumption of meat, poultry and fish and seafood

*** The data derived from a dichotomous response (Yes/No) for the questions asking whether mothers or children consumed a food group in the 24-hr preceding the survey

Result: Food Safety Perceptions



Finding:
Overall, 10% - 25% of the mothers perceived that chemical-free fresh produce is NOT available, affordable or convenient to obtain



Table 3: Logistic regression analysis of the characteristics associated with **children's** low consumption of fruits and vegetables and animal-flesh food

	Low fruits and vegetable consumption (< once a day)				Low animal-flesh food consumption (< once a day)			
	Univariate analysis (n=198)		Multivariate analysis* (n=198)		Univariate analysis (n=198)		Multivariate analysis* (n=198)	
	OR (95% CI)	P value	OR (95% CI)	P value	OR (95% CI)	P value	OR (95% CI)	P-value
Child age	0.96 (0.91, 1.10)	0.12	0.94 (0.88, 1.00)	0.07	0.92 (0.87, 0.98)	0.006	0.91 (0.85, 0.97)	0.005
Child sex								
Male	ref		ref		ref		ref	
Female	0.94 (0.53, 1.66)	0.82	0.87 (0.45, 1.66)	0.66	0.88 (0.49, 1.56)	0.65	1.03 (0.52, 2.04)	0.93
City of residence								
Phnom Penh	ref		ref		ref		ref	
Siem Reap	0.64 (0.36, 1.12)	0.12	0.57 (0.28, 1.17)	0.12	0.53 (0.30, 0.95)	0.031	0.45 (0.22, 0.95)	0.035
Wealth tertile								
High	ref		ref		ref		ref	
Middle	1.36 (0.68, 2.69)	0.38	1.60 (0.67, 3.84)	0.30	1.28 (0.64, 2.56)	0.48	1.04 (0.42, 2.58)	0.93
Low	0.94 (0.47, 1.87)	0.86	1.08 (0.44, 2.66)	0.86	1.07 (0.53, 2.14)	0.86	1.13 (0.44, 2.88)	0.80
Maternal education								
More than secondary education	ref		ref		ref		ref	
Some or completed secondary education	3.18 (1.27, 8.00)	0.014	2.57 (0.88, 7.52)	0.08	5.33 (1.77, 16.05)	0.003	6.30 (1.79, 22.21)	0.004
Completed primary education	2.80 (1.09, 7.18)	0.032	1.72 (0.59, 5.03)	0.33	9.71 (3.15, 29.88)	<0.001	11.63 (3.26, 41.49)	<0.001
None or some primary education	2.72 (1.15, 6.43)	0.022	1.90 (0.68, 5.28)	0.22	5.42 (1.89, 15.48)	0.002	4.58 (1.38, 15.21)	0.013
Access to fruits and vegetables†‡								
Perceived high access	ref		ref					
Perceived low access	5.07 (2.75, 9.35)	<0.001	5.14 (2.69, 9.83)	<0.001				
Access to animal-flesh food†§								
Perceived high access					ref		ref	
Perceived low access					3.63 (2.00, 6.57)	<0.001	4.34 (2.20, 8.60)	<0.001

1) Perceived low food access (incorporating food safety perception) was associated with 4x – 5x higher likelihood of low animal-flesh food consumption in both children and mother

2) Household wealth was not associated with low consumption in children



CONCLUSIONS FROM BOTH STUDIES

- 1) Perceived food safety and food access may play a role in maternal and child diet
- 2) Interventions promoting maternal and child diet should address perceived food access and food safety



Figure 1: % participants respond to questions about food safety and unhealthy food concern

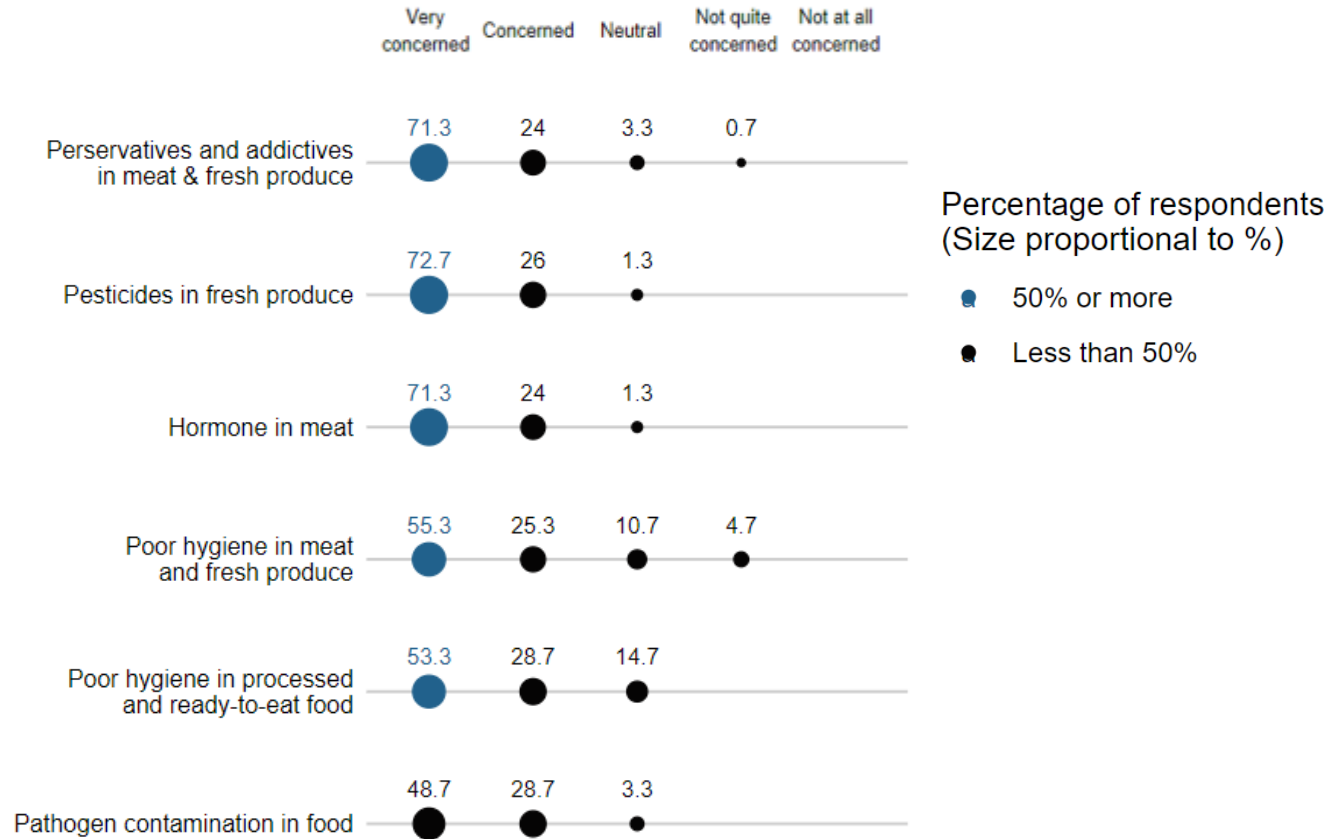


Figure 3: % participants reported *very often, sometimes or do not at all* restricting certain varieties of food





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