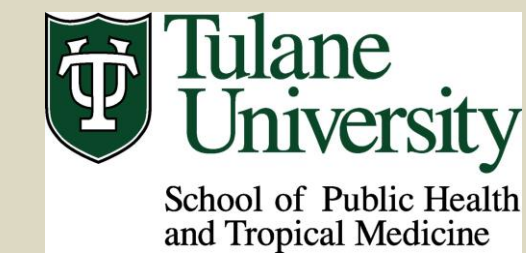


# Association of Mercury Exposure with Health-Related Quality of Life during pregnancy in Suriname



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## BACKGROUND

The abundant use of mercury (Hg) in illegal gold mining in Suriname's interior is of growing concern.

The Caribbean Consortium for Research in Environmental and Occupational Health is assessing exposure to Hg in pregnant women and their offspring.

This study examines the association between hair Hg levels, perceived health and Health-Related Quality of Life (HRQoL) in Surinamese pregnant women.

## METHODS

Data of 311 pregnant women were analyzed using standardized questionnaires completed during early pregnancy.

HRQoL was assessed using seven scales from the Rand SF-36: physical functioning, role physical, bodily pain, vitality, general health, role emotional and mental health (high scores indicate better QoL). Perceived health was measured using a 5-point Likert scale.

The association among hair Hg, perceived health, and HRQoL were assessed using multivariate logistic regression adjusted for maternal socio-demographic factors.

## RESULTS

83 women (26.7%) had elevated hair Hg levels exceeding the USEPA action level of 1.1 µg/g; no significant association was found with perceived health and HRQoL.

75.9% of the women with elevated hair Hg levels had a good perceived health, compared with 71.1% of the women with normal Hg levels (p=0.47).

Bivariate analyses showed a borderline association between education (secondary or lower vs. higher) and perceived health (OR: 2.0; 95%CI: 0.95-4.08); and region (interior vs. other) and perceived health (OR: 3.4; 95%CI: 0.90-13.0).

Table 1: Association between socio-demographic factors and perceived health

	Perceived health		Bivariate OR (95% CI)	p-value
	Good, very good, excellent n (%)	Poor, fair n (%)		
<b>Age</b>				0.32
<20 years	18 (64.3)	10 (35.7)	1.51 (0.67-0.42)	
≥20 years	207 (73.1)	76 (26.9)	1	
<b>Ethnic group</b>				0.81
African descent	97 (70.8)	40 (29.2)	1	
Asian descent	79 (74.5)	27 (25.5)	0.83 (0.47-1.47)	
Other	49 (72.1)	19 (27.9)	0.94 (0.49-1.79)	
<b>Region</b>				0.06
Interior	4 (44.4)	5 (55.6)	3.41 (0.89-13.01)	
Other	221 (73.2)	81 (26.8)	1	
<b>Education</b>				0.05
≤ secondary	180 (70.0)	77 (30.0)	2.14 (0.95-4.08)	
higher	45 (83.3)	9 (16.7)	1	
<b>Household income</b>				0.54
<3000	120 (71.9)	47 (28.1)	1.19 (0.69-2.06)	
≥ 3000	82 (75.2)	27 (24.8)	1	

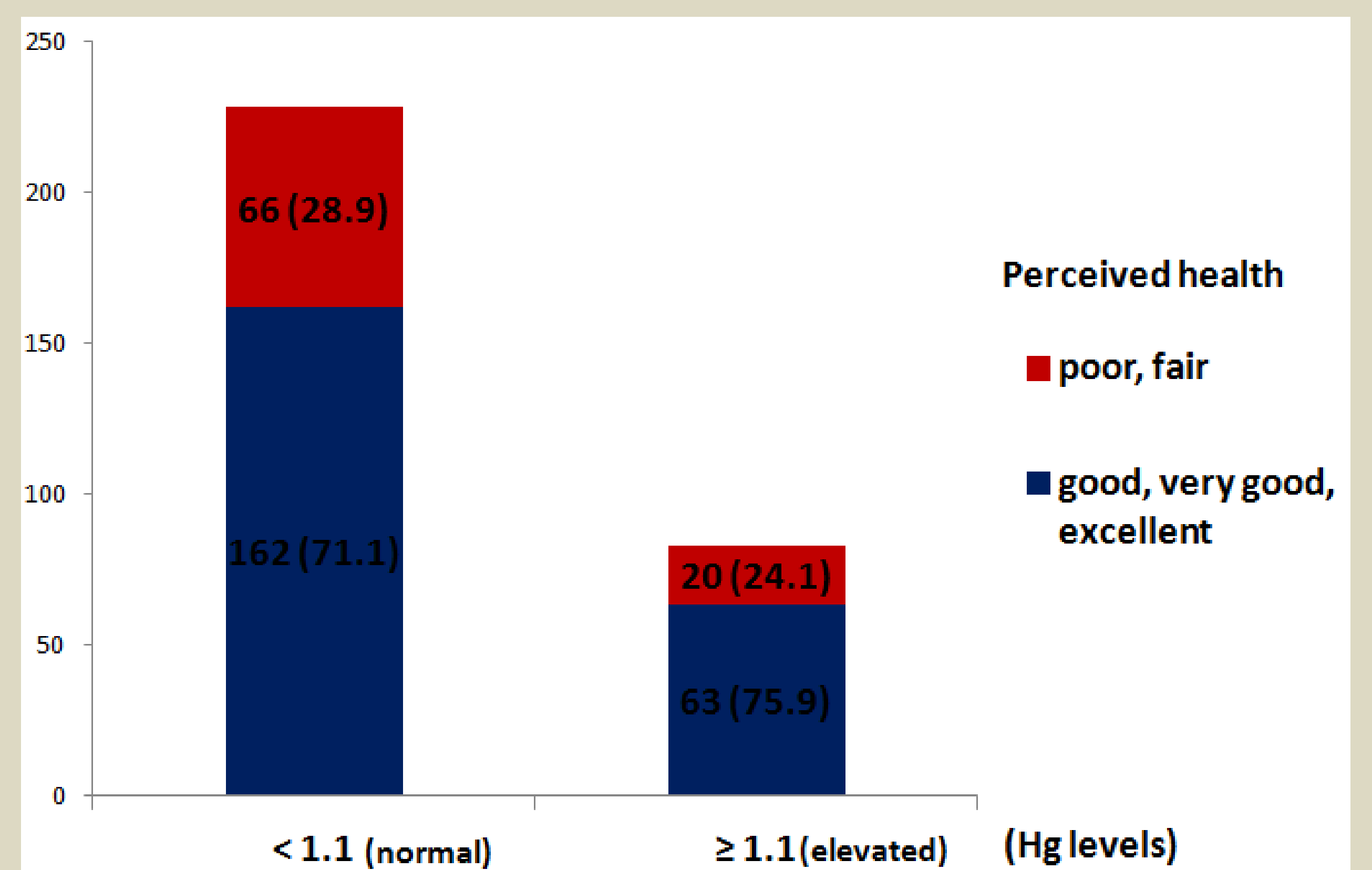


Figure 1. Distribution of perceived health among pregnant women for normal and elevated hair Hg levels

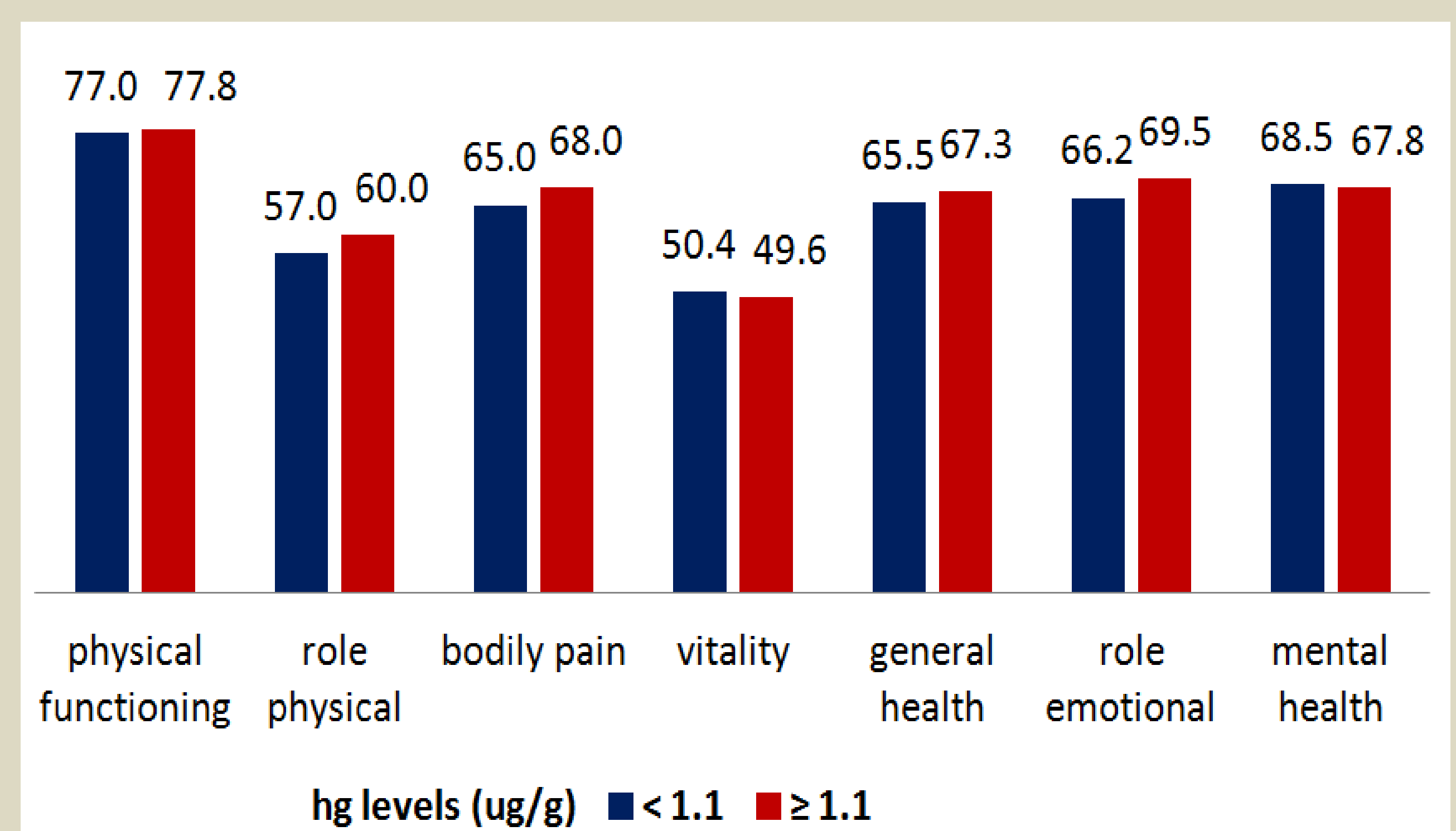


Figure 2. Distribution of HRQoL among pregnant women for normal and elevated hair Hg levels

## CONCLUSION

One out of four pregnant Surinamese women had hair Hg levels above the USEPA action level; these were not associated with lower HRQoL scores or poor perceived health during early pregnancy.

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