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Topic: Community health and nutrition programs

Title: Households, the Omitted Level in Contextual Analysis: Disentangling the Relative Influence of Households and Districts on the Variation of BMI Over Two Decades in Indonesia

Presentation Type: Oral

INTRODUCTION

Most research investigating the effect of social contexts on individual health outcomes, have mainly operationalized context within the area of residential environment. Households as a major determinant of health can be thought of an omitted contextual level which by large has been ignored in many imperial research examining the association between body mass index (BMI) and social determinants of health.

METHOD

In this study our main aim was to provide a methodical demonstration of three-level multilevel analysis in disentangling the simultaneous effect of households and districts as well as their associated predictors on BMI over time. We utilized data from all four cross-sections of Indonesian Family life Survey (IFLS) from 1993 to 2007-8.

RESULTS

We found that: (i) the variation in BMI attributable to districts decreased from 4.3% in 1993 to 1.5% in 1997-98 and remained constant until 2007-08, while there was a shocking increase in the variation of BMI attributable to households from 10% in 2000 to 15% in 2007-08; (ii) ignoring household level did not change the relative variance contribution of districts on BMI, but ignoring district level resulted in overestimation of household effect; and (iii) households' characteristics (SES, size, and place of residency) had no effect on the variation of BMI at the household level.

CONCLUSION

Our findings will guide the investment of limited public health resources to the right context (households) that is capable of having the largest effect on reducing health risk (variation in BMI) and promoting population health outcomes.