The Risk of Developing Diabetes and Impaired Health-Related Quality of Life in Indonesia

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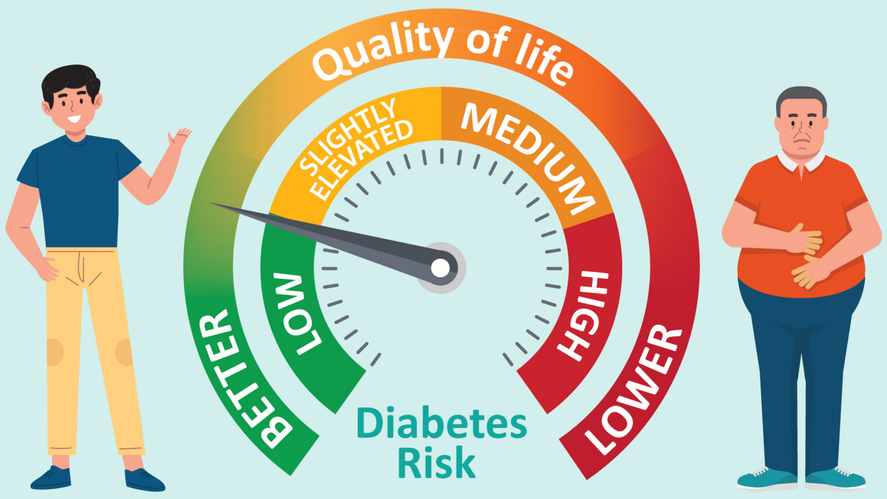
1 BACKGROUND

- Very limited studies concerning the link between the actual risk for developing diabetes in the future and health-related quality of life (HRQoL) currently exist.
- No studies regarding the association of diabetes risk and HRQoL exists for the Asian region.



2 OBJECTIVE

to examine the association between an elevated risk of developing diabetes and an impaired HRQoL in the Indonesian population.

3 METHODS

A cross-sectional study was conducted on 1,336 Indonesians from the general population who had no previous diagnosis of diabetes.
The utility score to represent HRQoL was measured using the EQ-5D-5L, while the risk for developing diabetes was determined using the Finnish Diabetes Risk Score (FINDRISC) instrument.

- All participants were asked to fast for at least 8 hours.
- Measured height, weight, waist circumference, and fasting blood glucose.
- Analyzed using multivariate Tobit regression models.
- Estimated the minimally important differences*.

* minimum changes in utility score that could be observed in clinical practice

4 RESULTS

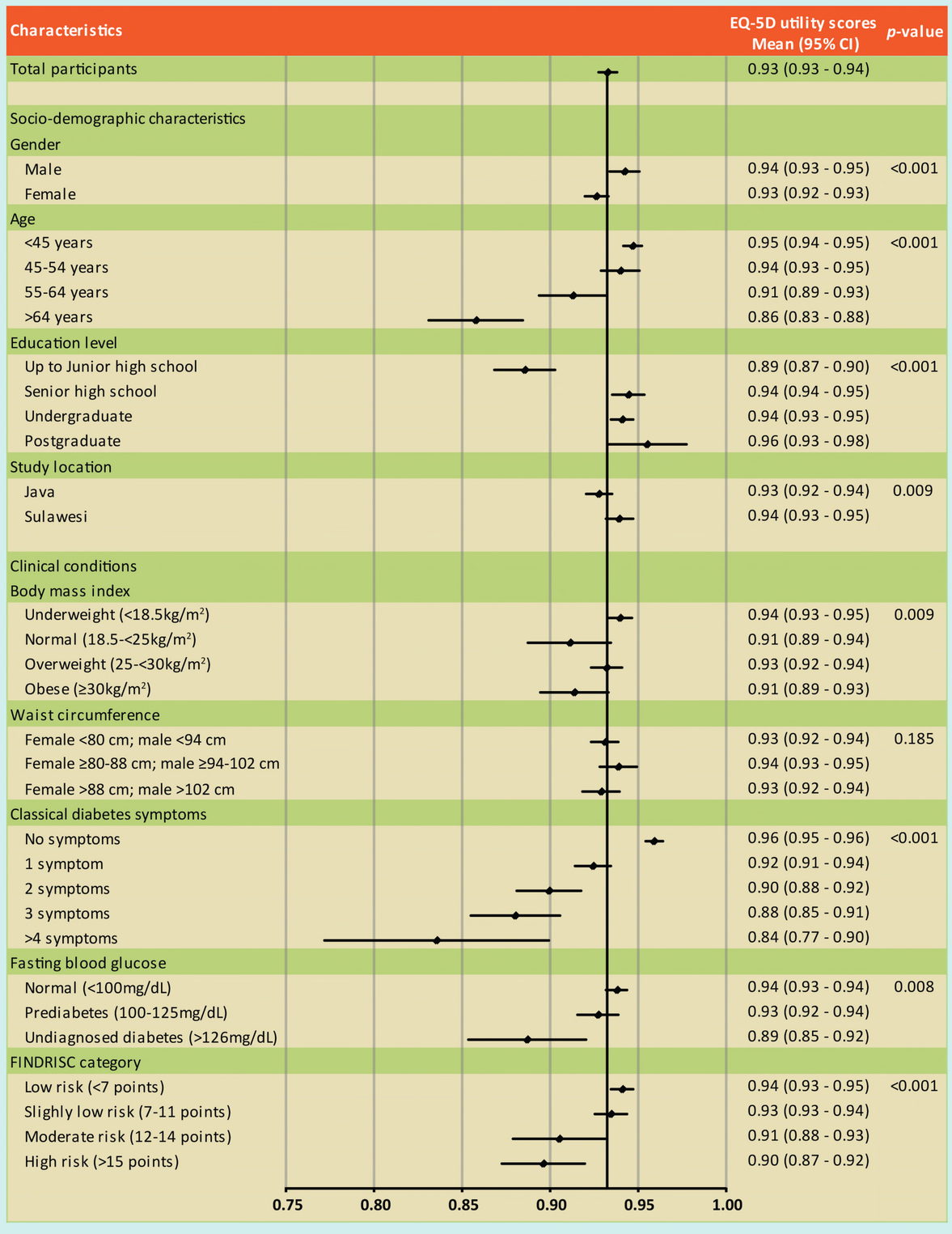
- Once adjusted for clinical conditions and socio-demographic characteristics, participants with an elevated risk for developing diabetes was still associated with lower HRQoL (Table 1).
- A lower quality of life was also found to be associated with being female, older age, a low formal education level, a lower waist circumference, a higher body mass index, and a higher number of diabetes symptoms.
- However, no significant correlation was detected between HRQoL and fasting blood glucose level categories.
- A difference of 4-5 points in the FINDRISC score was estimated to provide meaningful change in HRQoL in clinical practice.

Table 1
Association between FINDRISC score, clinical conditions, sociodemographic characteristics, and HRQoL (n=1,336)

Independent variables	Full Model pseudo r-square 0.329
FINDRISC score	-0.005 (-0.008, -0.002)**
Clinical conditions	
Fasting blood glucose (vs Normal (<100 mg/dL))	
Prediabetes (100-125 mg/dL)	0.011 (-0.014, 0.036)
Undiagnosed diabetes (>126 mg/dL)	0.004 (-0.041, 0.048)
Body mass index (vs Normal (18.5-<25 kg/m^2))	
Underweight (<18.5 kg/m^2)	-0.029 (-0.069, 0.011)
Overweight (25-<30 kg/m^2)	-0.027 (-0.054, >-0.001)*
Obese (≥30 kg/m^2)	-0.061 (-0.105, -0.017)**
Waist circumference (vs Female <80 cm; male <94 cm)	
Female ≥80-88 cm; male ≥94-102 cm	0.047 (0.017, 0.077)**
Female >88 cm; male >102 cm	0.074 (0.037, 0.112)***
Classical diabetes symptoms (vs No Symptoms)	
1 symptom	-0.056 (-0.080, -0.032)***
2 symptoms	-0.085 (-0.115, -0.054)***
3 symptoms	-0.108 (-0.150, -0.066)***
≥4 symptoms	-0.137 (-0.202, -0.073)***
Socio-demographic characteristics	
Female (vs Male)	-0.044 (-0.068, -0.020)***
Age (vs <45 years)	
45-54 years	-0.007 (-0.039, 0.025)
55-64 years	-0.041 (-0.078, -0.003)*
>64 years	-0.086 (-0.124, -0.047)***
Education (vs Up to Junior high school)	
Senior high school	0.051 (0.020, 0.082)**
Undergraduate	0.032 (<0.001, 0.064)*
Postgraduate	0.068 (0.013, 0.124)*
Sulawesi (vs Java)	0.005 (-0.023, 0.033)

*Notes. * = significant at the 0.05 level; ** = significant at the 0.01 level; *** = significant at the 0.001 level.*

Figure 1
Distribution of participants on EQ-5D index score (n=1,336)



5 CONCLUSIONS

- An elevated risk of developing diabetes is associated with a lower HRQoL.
- Attention should be paid not only to patients who have already received a diabetes diagnosis, but also to members of the general population who demonstrate a high risk of developing diabetes as this will assist in preventing the onset of diabetes and any further deterioration of HRQoL.

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