CARDIORESPIRATORY FITNESS AND HEALTH-RELATED QUALITY OF LIFE IN WOMEN AT RISK FOR GESTATIONAL DIABETES

OBJECTIVE:
To examine the associations of cardiorespiratory fitness and leisure-time physical activity with health-related quality of life in women at risk for gestational diabetes mellitus.

METHODS:
The participants were 39 women planning pregnancy with a history of gestational diabetes and/or BMI > 29 kg·m⁻². We assessed cardiorespiratory fitness by measuring maximal oxygen consumption (VO₂max) during incremental cycle ergometer exercise until voluntary fatigue. Leisure-time physical activity was self-reported, and health-related quality of life assessed with the SF-36 Health Survey (SF-36) (Figure 1).

RESULTS:
The mean (SD) age was 32 (4) years, VO₂max was 27 (6) mL·kg⁻¹·min⁻¹, and physical activity was 2.6 (1.7) h·week⁻¹. After controlling for BMI, VO₂max was positively associated with the SF-36 General Health scale (β = 1.27, 95% CI: 0.09, 2.44, P = 0.035) and the Physical Component Summary (β = 0.48, 95% CI: 0.14, 0.82, P = 0.007) (Figure 1). The General Health scale (P = 0.039) and the Physical Component Summary (P = 0.035) differed even between those with very poor and poor cardiorespiratory fitness. After controlling for BMI, physical activity was positively associated with the SF-36 Physical Functioning scale (r = 0.34, P = 0.093), the General Health scale (β = 1.74, 95% CI: 0.64, 2.84, P = 0.020) and the Physical Component Summary (P = 0.020) (Figure 2).

CONCLUSIONS:
Cardiorespiratory fitness and leisure-time physical activity were positively associated with perceived general health and physical wellbeing in women planning pregnancy and at risk for gestational diabetes. Even a slightly better cardiorespiratory fitness would be beneficial for self-rated wellbeing among women with low levels of cardiorespiratory fitness.

Figure 1. The eight health scales and two component summaries of the SF-36 Health Survey (SF-36) to assess health-related quality of life.

Figure 2. Spearman’s (rₛ) and Pearson’s (r_P) crude correlations of measured cardiorespiratory fitness (O₂max) and self-reported leisure-time physical activity with the SF-36 General Health scale, and the Physical and Mental Component Summaries.

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