

INTRODUCTION

People with metabolic syndrome (MetS) are at increased risk of developing cardiovascular complications and diabetes if not already present. It is well known that chronic conditions such as cardiovascular disease and diabetes are associated with impaired quality of life. This analysis examines the relationship between MetS and health-related quality of life (QoL).

METHODS

The North West Adelaide Health Study (NWAHS) is a representative random population sample of adults living in the north western region of Adelaide. All households within this region with a telephone connected and the telephone number listed in the Electronic White Pages were eligible for selection. Within each household, the person who had their birthday last and was aged 18 years or older, was selected for interview and invited to attend the study clinic. Of those who were eligible, n=4060 attended the clinic, resulting in a participation rate of 71.2%. Data were weighted by age, sex, area of residence and probability of selection in the household to ensure that the sample was representative.

Box 1. Definition of Metabolic Syndrome and Quality of Life

Metabolic Syndrome

Central obesity (waist circumference ≥ 94 cm for men and ≥ 80 cm for women) plus any two of the following:

- Triglyceride > 1.7 mmol/L;
- HDL cholesterol < 0.9 mmol/L;
- Blood pressure $\geq 130/85$ mmHg;
- FPG ≥ 5.6 mmol/L or previously diagnosed diabetes

Quality of life

Health-related (QoL) was assessed using the eight dimensions of the generic Short Form 36 (SF-36), namely Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE) and Mental Health (MH).

Analyses

Differences between means were examined using t-tests. Effect sizes were used to assess the magnitude of differences between means. The effect size was calculated by dividing the difference between the means of the group of interest and the general population by the standard deviation of the general population. Effect sizes of 0.2 to 0.49 were classified as small, 0.5 to 0.79 as moderate, and 0.8 or greater as large.

RESULTS

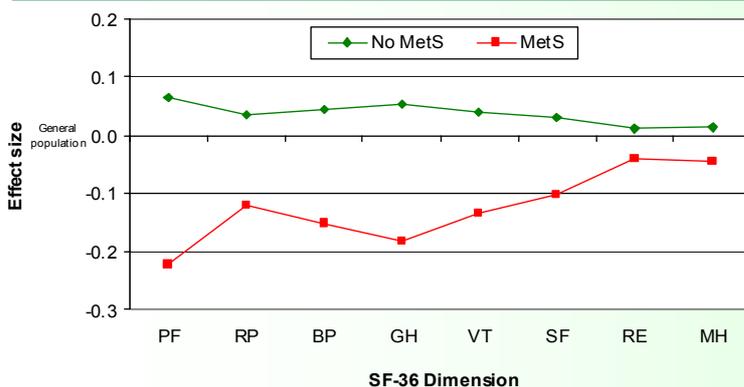
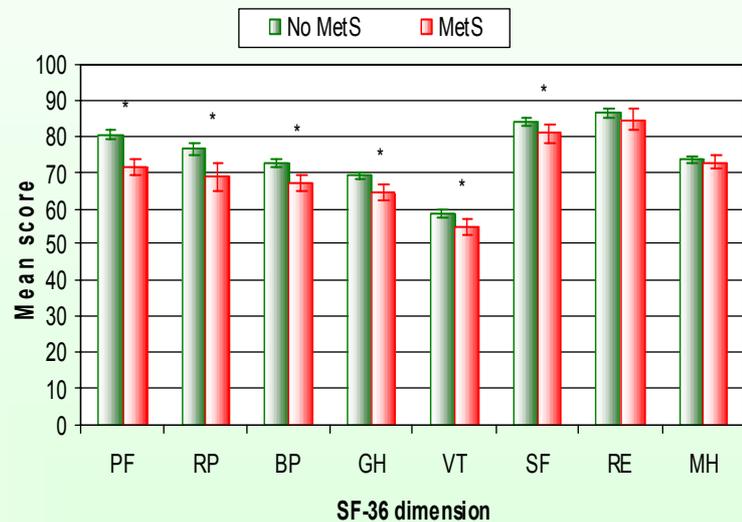


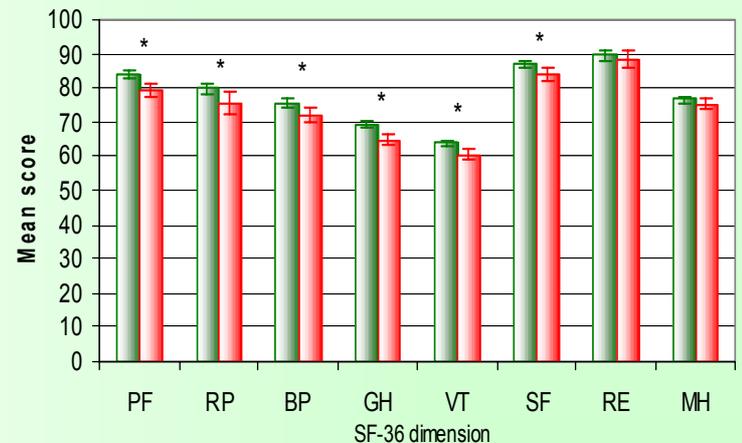
Figure 1. Effect size of differences in mean SF-36 scores for those with and without MetS, controlled for age and sex

The prevalence of MetS overall was 22.9% (95% CI 21.6 – 24.2). Males had a statistically significantly higher prevalence of MetS (26.4%, 95% CI 24.5 - 28.4) than females (19.5%, 95% CI 17.8 - 21.2). Participants with MetS scored statistically significantly lower on all dimensions of the SF-36 except for Role Emotional and Mental Health compared to people who did not have MetS. This relationship remained even after controlling for the effect of age and sex. Differences in mean SF-36 scores between those with and without MetS are shown in terms of effect sizes in Figure 1. Females and males with MetS scored statistically significantly lower on all dimensions of the SF-36 except Role Emotional and Mental Health (Figure 2 and Figure 3) compared to those without MetS. This relationship remained even after controlling for the effect of age.



* Statistically significant difference between MetS and no MetS (p<0.05)

Figure 2. Mean SF-36 scores for females with and without MetS, controlled for age



* Statistically significant difference between MetS and no MetS (p<0.05)

Figure 3. Mean SF-36 scores for males with and without MetS, controlled for age

CONCLUSIONS

People with MetS experience significantly impaired health-related QoL compared to those without MetS. Interventions that target MetS risk factors may have a positive effect on QoL even before cardiovascular or diabetes related complications develop.

Alicia Montgomerie BHSc

Epidemiological Research Officer
Population Research & Outcome Studies
Health Intelligence
Department of Health
Government of South Australia

phone +61 8 8226 8962

fax +61 8 8226 6244

email alicia.montgomerie@health.sa.gov.au

web www.health.sa.gov.au/pehs/pros.html

NW web www.nwadelaidehealthstudy.org/