



# LEISURE CYCLISTS AT RISK OF MEDICAL COMPLICATIONS: OUTCOMES OF ONLINE PREPARTICIPATION SCREENING AMONG 22 650 ENDURANCE CYCLISTS, USING CURRENT EUROPEAN GUIDELINES – SAFER CYCLING



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## Background:

European guidelines have been introduced to screen masters and leisure athletes prior to participation in moderate- to high intensity exercise, with the purpose of identifying the high-risk athlete who should undergo a medical assessment. However, these guidelines have not been tested in large community based cycling races. The Cape Town Cycle Tour is an annual mass participation cycling event that attracts recreational and elite cyclists ranging from age 13 years to over 70. The event also comprises of a large charity component, and therefore includes a large field of novice cyclists. Seeding is according to previous race events, with no qualification required. The aim of this study was to determine the prevalence of cyclists who would require a full medical assessment before participating in a community based mass participation cycling race, using current European guidelines.

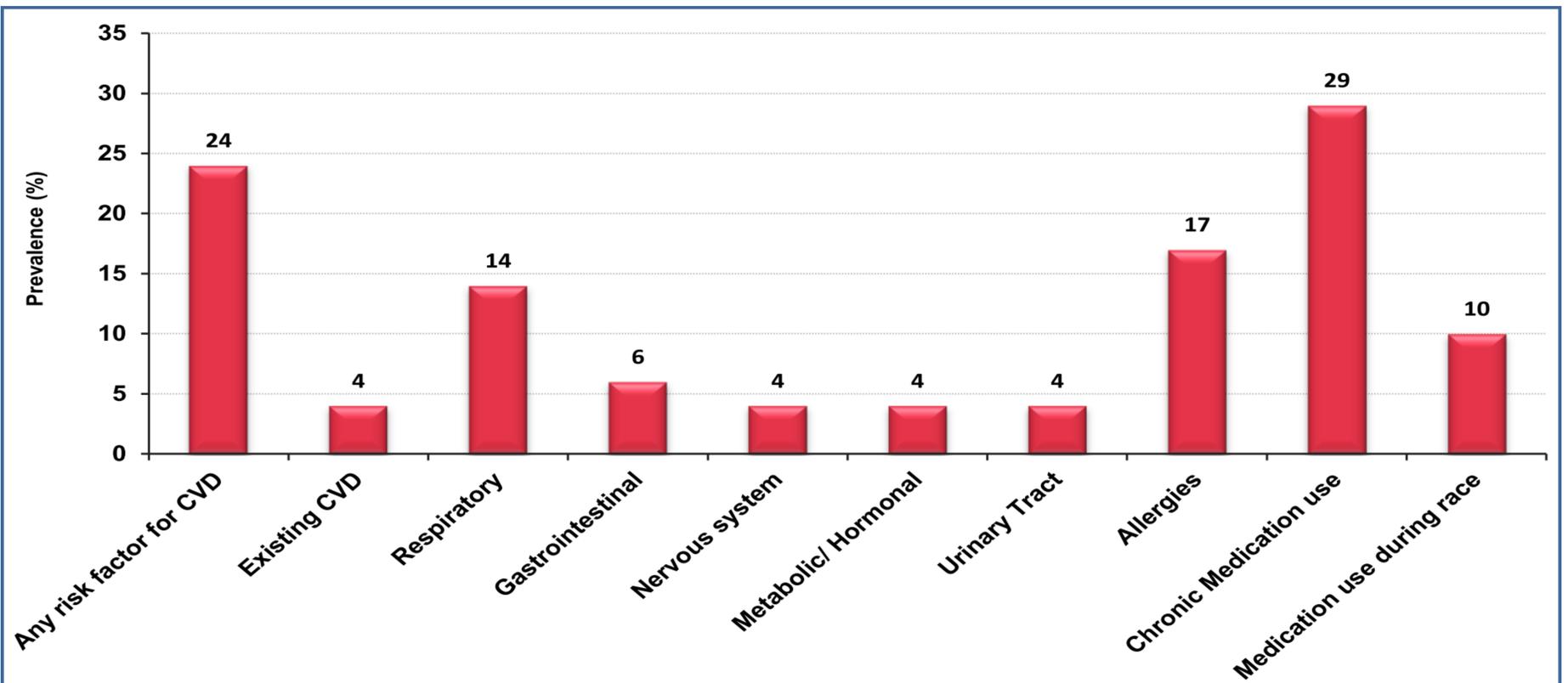
## Methodology:

This is a cross-sectional study. All 37 425 race entrants participating in the 2016 Cape Town Cycle Tour (109km) were required to complete an online pre-race medical questionnaire (containing all elements in the screening guidelines). The full study population comprised of 22 650 cyclists (60.3%) who gave consent that information may be used for research. The main measure of outcome was the prevalence (%) of cyclists that would be required to undergo a full medical assessment before moderate- to high intensity sports participation, based on the European guidelines. In addition, the prevalence of risk factors were determined for cardiovascular disease (CVD), existing CVD, diseases in other organ systems, allergies, chronic medication use and medication use during the race.

## Results:

This study shows that 35% of cyclists would require a full medical assessment prior to participation. Risk factors for CVD were present in 24% of cyclists and 4% reported existing CVD (Figure 1). The prevalence of risk factors for diseases in other organ systems were: respiratory (14%), gastrointestinal (6%), nervous system (4%), metabolic/hormonal (4%), and urinary tract (4%) (Figure 1). The prevalence of other possible risk factors for medical complications were, allergies (17%), chronic prescription medication use (29%), and the use of acute medication (including NSAID's) before or during races (10%) (Figure 1).

**Figure 1: The prevalence (%) of risk factors for CVD and individual diseases, as well as medication use.**



## Conclusion:

These data show that >35% of cyclists entering a community based mass participation cycling race would require a medical assessment prior to participation, if current European guidelines are to be implemented. We suggest that further research is conducted to determine if screening guidelines predict medical complications. Once these data are available, pre-screening guidelines for medical assessments may have to be revised.

