Cross-cultural validation of the Short Questionnaire to Assess Health-enhancing physical activity (SQUASH)

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Primary Objective: With this study we aim to cross-culturally validate the SQUASH questionnaire (self-reported habitual physical activity) using an independent, objective measurement of physical activity, i.e. an Actiheart device (heart rate and...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Cardiac disorders, signs and symptoms NEC
Study type	Observational non invasive

Summary

ID

NL-OMON37123

Source
ToetsingOnline

Brief title
SQUASH validation

Condition

- Cardiac disorders, signs and symptoms NEC

Synonym
Health enhancing physical activity

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: ZonMw (Dossier number: 50-51520-98-106)

Intervention

Keyword: multi-ethnic, Physical activity, validation

Outcome measures

Primary outcome

Self-reported physical activity levels:

Calculated as:

1. number of minutes per week of physical activity (continuous measure).

2. achieving the Dutch Norm for Physical Activity which consists of 30 minutes per day of moderately intensive activity for at least 5 days per week (dichotomous measure).

Objectively calculated physical activity:

Habitual movement in the course of 7 days based on accelerometer readings

Habitual level of exertion based on combination of heart rate and acceleration.

Physical fitness level:

Based on calculated maximum oxygen capacity obtained using sub-maximal linear step-test.

Secondary outcome

Potential covariates to be included in analyses will be obtained from the HELIUS study. These will include:

Anthropometrics: height, weight, BMI, waist circumference, hip circumference.

Blood pressure: systolic BP, diastolic BP, prehypertension and hypertension and use of anti-hypertensive medications.

Migration related factors: ethnicity, generation level, duration of residence

in Netherlands, acculturation level, migration history

Demographic factors: age, sex, marital status.

Socio-economic factors: education level, employment status.

Lifestyle factors: Dietary habits, smoking, alcohol use.

Study description

Background summary

Physical inactivity has become one of the biggest public health problems of the 21st century . It is an important risk factor for cardiovascular disease and diabetes mellitus. In the Netherlands only 61% of the population meets the minimum recommendation of 30 minutes moderate intensity physical activity (PA) daily, in ethnic minorities this percentage is much lower. For instance, only 18% of the Turkish Dutch meet this recommendation. Hence, the lack of PA may be a major contributing factor to disparities in health that are observed among these populations. Therefore, targeted health promotion interventions are conducted within these groups that focus on increasing PA level with the aim to decrease these health disparities.

Health promotion interventions can be evaluated with several instruments. An important instrument to establish PA level is the self-reported PA questionnaire. It provides crucial information about participation in specific physical activities. Currently the SQUASH is the standard instrument used in the Netherlands to assess PA level. It is for instance used by Universities, but also in the POLS study (permanent onderzoek naar de leefsituatie) of Statistics Netherlands and in the Lokale en Nationale Monitor Volksgezondheid (GGD). From these studies important results about compliance with the guidelines of health-enhancing PA in the total Dutch population are derived.

Empirical research has showed that the SQUASH is a valid instrument to measure PA among the ethnic Dutch population. However, this does not mean that the SQUASH is necessarily valid in ethnic minority groups as well. To establish the effect of interventions for minority groups there is an urgent need for reliable and valid measures of PA in ethnic minority groups in the Netherlands. At this moment no such measures are available.

There are several reasons why the SQUASH might not be a valid instrument in ethnic minority groups. In general the cross-cultural validity between

different ethnic groups is under threat because of three different types of bias:
- construct bias: the dissimilarity of constructs across cultures. For instance, the meaning of *leisure time* (in items on physical activity in leisure time) may be different across ethnic groups. Or the interpretation of the intensity of specified levels of PA may differ across ethnic groups. Or the meaning of PA may differ across ethnic groups.
- method bias: refers to the specific measures of the instrument that influences all items in the same degree, for instance in some cultures it is more important to give polite answers than to give honest answers. Also, subjects with a low PA level have less structured PA patterns and have more difficulty with recalling activities. As ethnic minorities have a lower PA level than the ethnic Dutch this may lead to method bias. Furthermore PA intensity is very subjective, sedentary people with a low fitness level might overestimate PA intensity, while people with a high fitness level might underestimate PA intensity.
- item bias: errors of measurement at item level, for instance by inadequate cross-cultural adaptation of items.

These forms of bias have to be tackled for at least the main ethnic groups before a questionnaire can be used universally.

Study objective

Primary Objective:
With this study we aim to cross-culturally validate the SQUASH questionnaire (self-reported habitual physical activity) using an independent, objective measurement of physical activity, i.e. an Actiheart device (heart rate and accelerometer).

Secondary Objectives:
We also aim to give insight in different types of bias per ethnic minority group.
Are the three main forms of bias (construct, method and item) prevalent in different ethnic groups or do differences in bias between ethnic groups exist?

Study design

The study will be set up as a prospective validation study. It will employ both quantitative (SQUASH questionnaire and exercise test) and qualitative (cognitive interviews) study methods. The study will include 500 HELIUS participants and will take approximately 1 year to complete.

Study burden and risks

There is no direct benefit for the participants. Due to the physical activity

testing potential benefit may be derived as a result of raised awareness of physical activity recommendations.
Participants will be asked to wear an "Actiheart" device for 7 days. This device is worn on the chest. It is small and unobtrusive and can be worn under clothing. The Actiheart is fully watertight and can be worn while bathing or swimming.
The use of sub-maximal exercise testing is not expected to present any risk for participants. Sub-maximal fitness testing has been commonly used by studies in mixed populations, including physically inactive participants.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

men and women aged 20-50 years.

Ethnic groups: Dutch, Surinamese, Turkish, Moroccan.

Exclusion criteria

Pregnancy
Unable to undertake fitness test (sub-maximal step test)

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Prevention

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	28-09-2012
Enrollment:	500
Type:	Actual

Ethics review

Approved WMO

Date:	27-08-2012
Application type:	First submission
Review commission:	METC Amsterdam UMC

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL40641.018.12