KaziHealth

Participant Information Guide

Workplace Health Promotion Programme

The *KaziBantu* Project, Healthy Schools for Healthy Communities, has been jointly developed by the following institutions:

1. **University of Basel**, Switzerland
2. **Nelson Mandela University**, South Africa
3. **Swiss Tropical and Public Health Institute**, Switzerland

Sponsor

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DSBG
UNIVERSITY OF BASEL
Department of Sport, Exercise and Health

Province of the EASTERN CAPE EDUCATION

University of Basel

Province of the EASTERN CAPE HEALTH

Foreword

It is our pleasure to present to you the transnational research project entitled: "Effects of a school-based health intervention programme in marginalized communities of Port Elizabeth, South Africa: The *KaziBantu* Project". The *KaziBantu* project stems from a collaboration between the University of Basel in Switzerland, the Nelson Mandela University in Port Elizabeth, and the Swiss Tropical and Public Health Institute. These institutes are working together to provide knowledge, tools and support needed to improve the overall quality of life of individuals most in need.

This project is a continuation of a project entitled: "Impact of disease burden and setting specific interventions on schoolchildren's cardiorespiratory physical fitness and psychosocial health in Port Elizabeth, South Africa: The DASH Project". While the initial DASH project, an acronym for 'Disease, Activity and Schoolchildren's Health, was carried out within the scope of the Swiss-South African Joint Research Program (SSAJRP) and funded by the Swiss National Science Foundation (SNSF) and the National Research Foundation (NRF) in South Africa, the follow-up, *KaziBantu* project, is funded by the Novartis Foundation.

The *KaziBantu* Project aims to improve health literacy and overall wellbeing in primary school settings situated in disadvantaged communities. What makes the KaziBantu project unique is the dual-focus, not only focusing on schoolchildren's health, but their teachers' health and wellbeing as well. The *KaziBantu* project is devoted to creating and embedding long-lasting positive lifestyle changes and to provide more opportunities for physical activity by implementing a multi-faceted approach to address the unique health problems faced within underprivileged settings of South Africa.

Message from the *KaziBantu* Ambassador
Zanele Mdodana, former Proteas Netball Captain and Laureus Ambassador

I value the significant role of my teachers and their contributions towards my love for exercise. I started playing netball in primary school and from there on my passion for sport grew. I was able to use sport as a vehicle which paved my career path and as a Sports Manager and Netball coach, as well as giving me the opportunity to impart what I have learned to others. Contributing towards the development of others is a fulfilling experience that I embrace. On this journey, I have realized that teaching is a noble profession. Teachers carry great responsibility to share knowledge and values in order to make a difference in the lives of a diverse group of children. The good health and well-being of our educators is vital for the provision of quality education. So, it is for this reason that I actively support the KaziBantu programme. Our teachers grapple with many challenges in the school environment which may influence their health; therefore, our teachers need our support.

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Table of Contents

Table of Figures

Introduction

The *KaziHealth* workplace health promotion programme, designed specifically for teachers in low-resourced settings, embraces a behaviour change model and focuses on improving lifestyle behaviours with five easy-to-follow steps. The World Health Organization (WHO) states that health and wellbeing is not just the absence of disease or illness, but that it is a complex combination of an individual's physical, mental, emotional and social health factors. Consequently, participating in a health programme will yield many benefits, which leads to increased sense of wellbeing, improved morale, increased productivity levels, reduced stress and improved general health.

The disease profile of South Africa is moving towards a profile seen in Western countries, where more and more deaths are being attributed to chronic non-communicable- and cardiovascular diseases. With up to 80% of these diseases preventable with lifestyle modification, the *KaziHealth* programme focuses on improving physical activity, improving psychosocial wellbeing by reducing stress and improving sleep, and increasing nutrition and promoting a more balanced diet. The main aim of *KaziHealth* workplace health promotion programme is to inform and foster behavioural change so that each teacher, including yourself, who has completed the programme will have the knowledge and skills to make better lifestyle related choices and ultimately live healthier lives.

The *KaziHealth* workplace health promotion programme is illustrated below and comprises of the following steps: an individual risk assessment to obtain your personal health profile, two face-to-face lifestyle-coaching sessions, self-monitoring and motivation using the *KaziHealth* mobile application and a final evaluation of your personal goal achievement.

Figure 1: *KaziHealth* workplace health promotion programme steps

This specially tailored programme has been designed and developed to inform and encourage a positive transformation in teachers, like you, who may be at risk of cardiovascular and non-communicable diseases. These intervention tools, provided here, aim to improve: body composition, cardiovascular disease risk, physical activity and physical fitness levels, infectious disease risk, psychosocial health and current dietary habits. Below is a brief overview of each step in the *KaziHealth* workplace health promotion programme followed by a more detailed description of the individual risk assessment.

Step 1: Individual Risk Assessment

This step determines your current health status and gathers information relevant to your personal health and wellbeing and includes a medical/health history, lifestyle habits, and various measures such as height, weight, blood pressure and others. All information collected will be treated as privileged and confidential. This means your information will be encrypted and saved under a unique code (without any name). The coded information file will only be accessible to authorised researchers directly involved in the project, and in the event of analysis, you will not be identifiable.

Step 2: Personal Health Risk Profile

After the individual risk assessment, a healthcare professional will provide you with your personal health risk profile report, illustrated in Figure 2. Your results will be explained and any questions you may have will be answered. Your health risk profile will be displayed using a traffic light report: a **red** light signifies high risk and immediate referral to your general practitioner; an **orange** light signifies moderate risk and referral to your general practitioner; a **green** light signifies no risk. Medication will also be provided for all positive parasitological infections. Lastly, you will be assisted in downloading the *KaziHealth* mobile application onto your cell phone, where a summary of your risk profile will be displayed.

Health profile

John Doe

Birth date: 01. January 1975

Testing date: 30 May 2018

Health indicator	Your score	Status	Risk
Blood pressure (systolic)	xx mmHg	Normal	
Blood pressure (diastolic)	xx mmHg	Normal	
Percent Body Fat	xx%	At risk	
Body Mass Index	xx kg/m2	At risk	
Total cholesterol	xx mmol/l	At risk	
LDL cholesterol	xx mmol/l	At risk	
HDL cholesterol	xx mmol/l	At risk	
Triglycerides	xx mmol/l	At risk	
Blood glucose (HbA1c)	xx%	Normal	
Haemoglobin concentration	xx g/dl	Normal	
Physical activity	xx min/week	At risk	
Fitness VO_2max	xx $ml*kg^{-1}*min^{-1}$	At risk	
General perceived stress	xx	Increased risk	
Work-related stress	xx	Increased risk	
Work-family conflict	xx	Increased risk	
Burnout symptoms	xx	Increased risk	
Health-related quality of life	xx	Increased risk	
Insomnia symptoms	xx	Increased risk	

Figure 2: Personal Health Risk Profile

Steps 3 and 4: Lifestyle Coaching Sessions, and Self-monitoring and Motivation

The next step will be to attend two lifestyle coaching sessions. In the first session you are assisted with goal setting based on your results. Progress and/or barriers to the successful implementation of your goals, as well as solutions will be discussed in the second session. During these sessions' information will be provided on how to modify your lifestyle using physical activity, nutrition information and stress management interventions. This will be presented by a relevant healthcare professional and include tutorials on the *KaziHealth* App. This application integrates the three lifestyle interventions, namely, physical activity, nutrition and stress management. The *KaziHealth* application will also provide regular educational and motivational messages to help you achieve your personal health goals.

Step 5: Evaluation of Goal Achievement

After the 6-month intervention, a repeat of your individual risk assessment will be performed to determine whether your health indicators have improved.

Individual Risk Assessment

Participating in the individual risk assessment phase is your first step towards improving your health and wellbeing. We appreciate your willingness to attend this personal health screening. To understand what this step will entail and to ensure that you feel comfortable in participating, a description of the assessment protocol components is given, first in summary form (refer to table below), followed by more detail of each component. **Your attention is also drawn to the special *Instructions to all Participants*** (refer to page 5), as these will ensure that you obtain optimal results on the day of assessment.

Assessment Protocol Components

1. Initial Consultation

- 1.1. Informed Consent
- 1.2. Personal Information
  - 1.2.1 Caregiving Responsibility
  - 1.2.2 Socioeconomic Status
  - 1.2.3 Education
  - 1.2.4 Lifestyle Behaviour
- 1.3. Subjective Perceived Health
- 1.4. Family and Medical History
- 1.5. Physical Activity Readiness Questionnaire (PAR-Q)

2. Anthropometry and Body Composition

- 2.1. Height and Weight (Body Mass Index)
- 2.2. Waist and Hip Circumference (Waist-to-Hip Ratio)
- 2.3. Bone Density Scan

3. Clinical Examination

- 3.1. Blood Pressure
- 3.2. Cholesterol
- 3.3. Blood Glucose
- 3.4. Haemoglobin Concentration

4. Physical Activity and Physical Fitness

Physical Activity

- 4.1. Physical Activity Questionnaire
- 4.2. Accelerometery

Physical Fitness

- 4.3. Cardiorespiratory Test
- 4.4. Hand Grip Strength Test

5. Wellness Questionnaire

- 5.1. General Perceived Stress (PSS)
- 5.2. Work-Related Stress (ERI)
- 5.3. Work-Family Conflict (WAFCS)
- 5.4. Burnout Symptoms (SMBM)
- 5.5. Health-Related Quality of Life (GHQ-12)
- 5.6. Sleep Complaints (ISI)

6. Communicable Diseases

Instructions to Participant before the Health Risk Assessment

1. Please wear comfortable training shoes and clothes that allow freedom of movement.
2. Females should wear comfortable sport underwear without a wire as this may interfere the scanning equipment.
3. Do not wear clothing with buckles, belts or metal fasteners and remove all jewellery.
4. Please refrain from eating and drinking 8 hours prior to performing the cholesterol tests as the test requires that you are fasting. This means you are not allowed to eat or drink anything after dinner on the night before testing. Non-fasting results will produce a false reading.
5. Please refrain from ingesting alcohol, caffeine or using tobacco products within 30 minutes of testing as this can elevate readings.
6. To participate in the fitness tests of the risk assessment, teachers should report a temporary illness such as a cold or fever.
7. Please take note of the following contraindications for performing the bone density scan:
    a. Pregnant women may not complete this test.
    b. Individuals who have participated in any investigation using radioisotope that were carried out in the last 10 days may not complete this test.
    c. Internal metal artefacts will affect body composition results.
    d. Braided hair will affect body composition results as the scan identifies this as fat mass.

1. Initial Consultation

1.1 Informed Consent

To perform the health risk assessment, your consent is first required. This confirms that you understand and agree that all the information you provide is accurate for use by the healthcare professionals to assess your health risk. Thereafter, you will be asked to give information about your health status. This will entail providing personal information about your lifestyle-related habits, your perceived health status and family and medical history. Family and medical history is important as this informs the healthcare professional about the history of disease in your family, and therefore, helps identify patterns that may be relevant to your own health and if you are at a higher risk of acquiring a disease. The information and subsequent health risk profile will be used to suggest appropriate intervention programmes aimed at improving your current health status.

2. Anthropometry and Body Composition

2.1 Height and Weight

Measurements of height and weight are used to estimate body composition. Body composition is the proportion of fat and non-fat mass in your body.

After height and weight has been measured, your body mass index (BMI) can be calculated. BMI is used to estimate body fatness and indicates whether you are within the appropriate weight range for your height.

2.2 Waist and Hip Circumference

Measurements of waist and hip circumferences are used to calculate your waist-to-hip ratio. The waist-to-hip ratio is a measure of obesity to determine the distribution of fat tissue in your body, which in turn determines the risk for chronic disease.

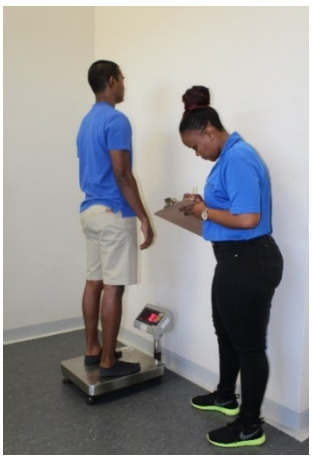
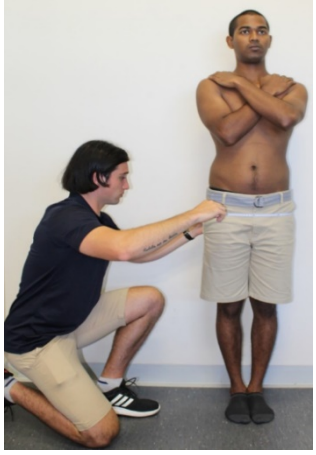
Height Measurement	Weight Measurement	Circumference Measurements
		

Figure 3: Anthropometry and Body Composition Measurements

2.3 Bone Density Scan

This body scan measures your bone density to determine how healthy your bones are, in addition to assessing your body composition, meaning it scans the percentage of fat in your body. Health care professionals can use these values to manage disease and conditions that are affected by the amount of fat and non-fat mass in your body. Please be reminded that individuals who have any internal metal artefacts, have braided hair, who are pregnant, and who have undergone any radioisotope investigation in the last 10 days **may not** perform this body scan.

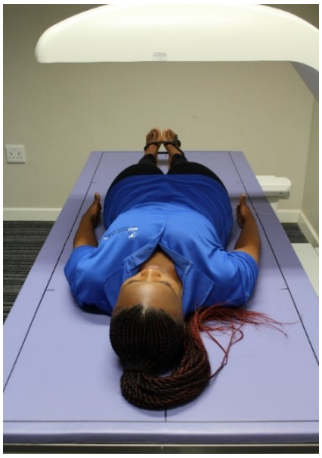
Bone Density Scanner	
	

Figure 4: Bone Density Scan Measurement

3. Clinical Examination

3.1 Blood Pressure

Blood pressure is the pressure of blood in your arteries – the blood vessels that carry blood away from your heart. The first (or top) blood pressure number is your systolic blood pressure. It is the highest level your blood pressure reaches when your heart beats (contracts). The second (or bottom) blood pressure number is your diastolic blood pressure and is the lowest pressure exerted as your heart relaxes between beats. High blood pressure, or hypertension, is when blood pressure stays elevated over time. Hypertension is often known as the "silent killer". This means you could be living with hypertension and not know it, as it does not have any symptoms. Therefore, it is important to have your blood pressure checked regularly to detect hypertension as early as possible. If treatment is started early, your risk of permanent damage is decreased. Blood pressure is measured by having a blood pressure meter cuff placed around your upper arm while you are sitting down.

3.2 Cholesterol

Cholesterol is a waxy fat substance produced by the liver from fat in your diet. There are a few types of cholesterol and not all cholesterol is the same. 'Bad' cholesterol is known as LDL (low density lipoprotein) and leads to heart attack, strokes and other complications as it is stays in the body. The lower your LDL, the better it is for your health. 'Good' cholesterol is known as HDL (high density lipoprotein) and protects you from heart attacks and strokes as it excretes cholesterol in your blood from your body. High cholesterol is when you have too much 'bad' cholesterol in your blood. This causes narrowing and blockages of the arteries – the blood vessels that carry blood to your heart muscle (leading to a heart attack) and to other parts of your body, such as the brain (leading to a stroke). Your cholesterol can either be tested with a full lipid profile test, or a total cholesterol test.

Full Lipid Profile Test

A fasting lipogram measures the exact amount of each type of cholesterol (total cholesterol, LDL, HDL, triglycerides, non-HDL cholesterol and the cholesterol / HDL ratio) in your body. To obtain these results, a small drop of blood (taken by pricking your finger) is put into a disposable test cartridge and placed into an analyser.

Total Cholesterol Test

A cholesterol meter is the medical device used for determining the approximate concentration of total cholesterol in your blood. To obtain this value, a small drop of blood is put onto a disposable test strip and inserted into the meter.

3.3 Blood Glucose

Our bodies produce insulin – a hormone that regulates the amount of sugar (glucose) in your blood system. Without insulin, cells cannot absorb the sugar (glucose) which they need to produce energy. When there is not enough of this hormone in your body, or it is not used as it should be, sugar (or 'glucose') cannot be moved into your body's cells to supply them with energy. This means that you

have higher than normal blood-glucose levels, which can cause damage to your organs. If your blood-glucose levels are high for a prolonged period of time, you may be diagnosed with diabetes.

There are three major types of diabetes:

1. Type 1 occurs when the pancreas stops producing insulin. It is usually diagnosed during childhood.

2. Type 2 occurs when the pancreas makes too little insulin, or your body cannot use the insulin effectively. It usually develops in adulthood and is often caused by poor lifestyle habits.

3. Gestational diabetes occurs during pregnancy in females who are not diabetic. This condition tends to resolve itself after childbirth, although it may lead to a higher risk of type 2 diabetes.

To test your risk for diabetes, you can perform a HbA1c test, or a fasting/random blood glucose test.

HbA1c Test

The HbA1c test is used to measure the percentage of glycated haemoglobin, meaning haemoglobin changed by a high glucose concentration in your blood. Glycated haemoglobin reflects an average blood glucose level over the past two to three months. A small drop of blood is put into a disposable test cartridge which is placed into an analyser.

Fasting Blood Glucose Test

A glucose meter is the medical device used for determining the concentration of glucose in your blood. A small drop of blood is placed onto a disposable test strip and inserted into the meter.

3.4 Haemoglobin Concentration

Anaemia is a condition in which you do not have enough healthy red blood cells to carry enough oxygen to your body's tissues. Red blood cells contain haemoglobin, which is an iron-rich protein giving your blood its red colour. Having anaemia may make you feel tired and weak. At first, anaemia can be so mild that it goes unnoticed, but symptoms worsen as anaemia worsens. To measure your haemoglobin concentration a small drop of blood is placed in an analyser. Normal ranges for haemoglobin measurements may depend on your altitude/region.

4. Physical Activity and Physical Fitness

4.1 Physical Activity Questionnaire

This questionnaire assesses your physical activity across leisure, work-related and transport-related activities.

4.2 Accelerometery

A device called an ActiGraph is used and is worn around your waist to determine your amount of activity. The ActiGraph is similar to a pedometer, which is also worn around the waist and measures the number of steps taken. This device only measures your activity performed and poses no harm or any known risks through the use thereof. As a participant of the *KaziBantu* programme, you will be required to wear this device for a period of seven days, only removing it when bathing or showering. You are advised to continue with your regular activity as usual and not place yourself at risk for injury by attempting to perform more activity than you would normally do when wearing the ActiGraph.

4.3 Cardiorespiratory Test

This test is used to test your aerobic fitness. The objective of the test is to move as far as possible within 12 minutes, either walking or running. The total distance covered is recorded and used to classify your fitness; however, it is supposed to be run at a steady pace and not sprints or fast running. Walking is allowed; although, you are encouraged to do the best that you can to maximize the distance covered.

4.4 Hand Grip Strength Test

Hand grip strength refers to the force applied by your hand to pull on or suspend objects and is a specific part of your hand strength. Additionally, it is a general term used by the physical strength of an individual, referring to the muscular power and force that you can generate with your hands. Generally, individuals with strong hands tend to be strong elsewhere too; and therefore, this test is an indication of general strength too.

5. Wellness Questionnaire

When we think about health, the first thing that comes to mind is physical health. Although, health encompasses several other dimensions. Wellness can therefore be defined as mental (thinking), emotional (feeling), social (relating) and spiritual (being) dimensions of health and well-being. You will be required to complete the *KaziBantu* Wellness Survey in the form of questionnaires. The questionnaires are brief and simple. The survey will be used to screen for potential psychosocial stressors (perceived stress, work stressors, work-family conflict, insomnia, burnout and mood and anxiety disorders). Please remember to read through all the questions carefully and to choose the box that best fits your answer. There is no right or wrong answer and answers will be treated as confidential and will not affect your teaching at school.

6. Infectious Disease

Communicable, or infectious diseases, are caused by microorganisms such as bacteria, viruses, parasites and fungi that can be spread, directly or indirectly, from one person to another. Some are transmitted through bites from insects, while others are caused by ingesting contaminated food, or water. Please note that this is an optional test. It is in your best interest if you would like to know your risk of infection, given the environment that you may be working in. To determine infection, stool samples will be collected to test for intestinal worms and a urine sample will be used to detect parasites. If the sample tests positive, an appropriate treatment intervention will be provided.

Personal Health Profile

Once you have completed the individual risk assessment the KaziBantu team will contact you to set up an appointment for your personal health profile.

KaziBantu

Healthy Schools for Healthy Communities

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