





Healthy Schools for Healthy Communities

2020 Onwards...





United Nations Educational, Scientific and Cultural Organization •



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Where we come from: The **DASH** Project

'Education is the most powerful weapon which can be used to change the world.'

Nelson Mandela (2003)



n 2014, the Nelson Mandela University, together with the University of Basel and the Swiss Tropical and Public Health Institute from Switzerland, collaborated on the **D**isease, **A**ctivity and **S**choolchildren's **H**ealth (**DASH**) project. The objective was to explore the implementation of a multi-fold, school-based intervention, aimed at the improvement of the health and wellbeing of schoolchildren in disadvantaged communities of Port Elizabeth, South Africa. Important research findings and a toolkit emanated from the project. The multi-fold intervention was applied over two 10-week blocks and comprised of four elements:

- Weekly physical activity and dancing-tomusic lessons;
- 2. Health and hygiene education lessons;
- 3. Nutritional supplementation; and
- 4. Deworming.

The *KaziBantu* project is an expansion of the *DASH* project.

KaziBantu Project

The *KaziBantu* Project in a Nutshell

'Sport has the power to change the world. It has the power to inspire.' Nelson Mandela (2013)



The *KaziBantu* Project, translated from Swahili and Xhosa to 'active people', builds on the findings and experiences of the **DASH** project. It encompasses specifically tailored school-based intervention programmes, focusing on physical activity and fitness, diet and nutrition as well as health, hygiene and psychosocial wellbeing. The *KaziBantu* project promotes a healthy, active lifestyle in schoolchildren and teachers in disadvantaged settings in South Africa.

Two toolkits have been developed to contribute to the health of learners and teachers:

- *KaziKidz:* A holistic educational and instruction tool aimed to enhance schoolchildren's overall health.
- *KaziHealth:* A workplace health intervention programme designed specifically for school teachers to decrease non-communicable disease risk factors.

Physical Activity and an Active Lifestyle

Experts predict that by the year 2030, 1.3 billion people or approximately 15% of the global population, will be classified as overweight.



Research over the past few decades has provided a greater understanding of factors influencing physical activity, in people or in a community setting. These factors are highlighted in the illustration above.

Studies have shown that children of inactive parents are more sedentary than children of active parents. Lack of physically active role models in modern families may therefore contribute significantly to inactivity and overweightness. With physical inactivity contributing to noncommunicable diseases, including cardiovascular diseases, strokes, diabetes and certain types of cancer, it forms a key risk factor for mortality globally.

The United Nations General Assembly established 17 global Sustainable Development Goals in 2015. Focusing on decreasing non-communicable disease risk and promoting good health and wellbeing for all ages, the *KaziBantu* project aims to contribute to these goals.

Source:

Edwards, P. & Tsouros, A., 2006. Promoting Physical Activity and Active Living in Urban Environments: The Role of Local Governments (Copenhagen, WHO Regional Office for Europe).





KaziKidz is a holistic educational and instructional tool, used by teachers in low-resourced settings to promote healthy behaviours in primary schoolchildren.

Three content pillars are used:

- Physical Education
- Moving-to-Music
- Health, Hygiene and Nutrition Education

The *KaziKidz* lessons are aligned with South Africa's Curriculum and Assessment Policy Statement (CAPS), resulting in easy implementation and integration within school structures. Schoolchildren are led through the content with games and playful activities, partly supported by music, and ultimately promoting a healthy lifestyle from childhood into adolescence.

KaziBantu Project

KaziKidz Modules



By implementing the *KaziKidz* Toolkit, teachers contribute to the overall health and wellbeing of learners.



Children should be active for at least 60 minutes per day, to ensure health enhancing benefits.

Through the Physical Education content pillar of *KaziKidz*, learners' physical activity levels and fundamental movement literacy skills are increased.

Low-resourced school settings are often faced with inadequate infrastructure, the lack of sport equipment and large class sizes. The Physical Education content pillar was designed keeping these challenges in mind, finding creative ways to keep schoolchildren active.



Low resourced settings face many health challenges not prominently seen in the burden of disease statistics of South Africa.

By addressing these conditions through health and hygiene education, the risk of infections can be reduced.

Furthermore, inadequate intake nutritional foods of mav adversely affect the health and wellbeing of primary schoolchildren. Simple educational and material awareness techniques are used to empower schoolchildren to make healthier food choices.



The Moving-to-Music content pillar of **KaziKidz** was designed to support teachers to develop physical, psychological and personal skills in schoolchildren through dancing and movement experiences.

With the ready-made lessons, any teacher is empowered to teach Moving-to-Music dance lessons in a school setting. Each lesson has clear instructions that can simply read with be accompanying movement designed songs, to get schoolchildren moving in a fun and enjoyable manner.

KaziHealth:

A Workplace Health Intervention Programme



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 (Figure 1).

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, lifestyle- and cardiovascular diseases. With up to 80% of these diseases preventable with lifestyle modification, the *KaziHealth* programme focuses on increasing physical activity and psychosocial wellbeing by managing stress and sleep problems, and improving nutrition by promoting a more balanced diet.

The main aim of the *KaziHealth* workplace health promotion programme is to inform and foster behavioural change so that each teacher, who has completed the programme, will have the knowledge and skills to make better lifestyle related choices and ultimately live healthier lives.



KaziHealth:

A Workplace Health Intervention Programme

Step 1: Individual Risk Assessment

Determines current health status and includes medical history, lifestyle habits, and various clinical measures using the KAZICHAT platform:

- Blood pressure to determine hypertension risk
- Blood glucose through glycosylated haemoglobin
- Cholesterol levels with a full lipid profile
- Free living accelerometer physical activity, cardiorespiratory fitness and handgrip strength
- Stress, burnout, health related quality of life and sleep
- 24-hour dietary analysis

Step 2: Personal Health Risk Profile

A healthcare professional provides a personal health risk profile (Figure 2), using an easy to understand traffic light model, where a red light signifies high health risk; an orange light, moderate risk, and a green light low health risk.

Individual Health Risk Report

Indicator	Actual measurement	Status	Risk
Blood pressure	150 / 104 mmHg	Stage 2 hypertension	
Total cholesterol	5.61 mmol/L	Borderline high	
Low density lipoproteins	3.18 mmol / L	Near Optimal	
High density lipoproteins	1.69 mmol/L	High	

diet and nutrition and stress and sleep management) is provided by healthcare professionals in the respective fields. Participants are assisted to set personal goals based on their health risk results. and/or barriers to the successful

After the lifestyle coaching sessions, ongoing selfmonitoring and motivation is provided through the KaziHealth mobile application (Figure 3) to assist each participant in achieving his/her personal health goals.

implementation of these goals, as well as solutions

Steps 3 and 4: Lifestyle Coaching Sessions, and

Two lifestyle coaching sessions are conducted where

information on the intervention (physical activity,

Self-monitoring and Motivation

are discussed in the second session.

Progress

Step 5: Evaluation of Goal Achievement

After incorporating the intervention, the individual health risk assessment is repeated, to determine whether health indicators have improved.



Figure 3: KaziHealth mobile application

Figure 2: Personal health risk profile

Blood Pressure Results from the *KaziBantu* Baseline Testing Phase





Legend

- 1. Normotensive: <90th percentile
- **2. Pre-hypertensive:** $\ge 90^{\text{th}}$ to $< 95^{\text{th}}$ percentile
- **3.** Stage 1 hypertension: $\geq 95^{\text{th}}$ to $< 99^{\text{th}}$ percentile
- 4. Stage 2 hypertension: ≥99th percentile +5 mmHG

Method

E ach child's blood pressure was measured three times, with a calibrated Omron® digital blood pressure monitor, after the child had been seated for five minutes. The cuff was wrapped around the left arm, so that only a finger could fit between the cuff and arm. The bottom of the cuff was placed about 4 cm above the elbow, with the palm facing up while the blood pressure was taken. A cuff size of 17-22 cm was used (Omron® CS2 Small Cuff; Hoofddorp, The Netherlands). Since the first measurement often results in higher values, the average of Source:

Cut-offs and syntax were applied according to the "German Health Interview and Examination Survey for Children and Adolescents" (KIGGS) study, Robert Koch-Institute, Berlin, 2013.

the second and third measurements was utilized to estimate diastolic and systolic blood pressure. To analyse the data, children were categorized into a normotensive, pre-hypertensive or hypertensive group, based on percentiles, taking age, sex and height of each child into account.

Results

For both diastolic and systolic measurements, at *KaziBantu* baseline testing phase, about 20% or one fifth of the children measured, were categorized as either hypertension stage 1 or stage 2.

KaziBantu Project

Media and Science Release



"Physical activity contributed to the maintenance of academic performance"

> Newspaper article in The Heralds; March 18th, 2019

"Worms partly responsible for lower academic results among children"



Newspaper article in Dispatch Live; May 10th, 2017

"A multidimensional, school-based physical activity intervention can reduce the increase of specific cardiovascular risk factors."

International Journal of Environmental Research and Public Health; January 15th, 2019



The way forward Beyond borders



Our aim is to disseminate the *KaziBantu* Project to 300 quintile 3 primary schools in the Eastern Cape, before being distributed nationally. This would be done through formal courses and teacher workshops. Funding is sought for the dissemination and for much needed research on the health and wellbeing of children and teachers in the rural parts of South Africa.

The ultimate goal of the project is to cooperate with other local as well as internationally recognized institutions and researchers from Tanzania, Ivory Coast, Namibia, Botswana, Mauritius and European regions.

Timeline of *KaziBantu* Beyond borders





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Website: www.kazibantu.org

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Would you like to be part of our journey? Please join and contact us...

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