



Southern and Eastern Africa Consortium
for Monitoring Educational Quality

Learner and Teacher Knowledge about HIV and AIDS in Namibia

www.sacmeq.org

Introduction

The HIV and AIDS pandemic represents a major challenge for the social and economic development of nations located in Sub-Saharan Africa. The Joint United Nations Programme on HIV and AIDS (UNAIDS, 2010: 180) has estimated that in this region there are more than 20 million people living with HIV, and that around 10% of these people are below the age of 15 years.

In 2009 governments and international donors together provided US\$ 15.9 billion for the global AIDS response (UNAIDS, 2010: 146). At this point of time there is no known cure for AIDS, and a vaccine for HIV still appears to be in a development phase.

The first case of HIV infection in Namibia was diagnosed in 1986. In 2009 around 180,000 Namibians were living with HIV and around 20,000 of them were children under the age of 15 years (UNAIDS, 2010: 180).

AIDS is widely accepted as being one of the main causes of a dramatic increase in the number of orphans. The estimated number of orphans aged 0-17 years due to AIDS in Namibia rose from 30,000 in 2001 to 70,000 in 2009 (UNAIDS, 2010: 186).

The UNAIDS organization has reported that the HIV prevalence rate in Namibia for adults aged 15-49 years in 2009 was 13.1%. This represented a small decrease from 16.1% since 2001. However, it must be remembered that this change in rates may have been influenced by changes in the methodology for estimating HIV infection rates that occurred during 2007 (UNAIDS, 2007: 3).

The United Nations has recognized that the education sector has a critical role to play in terms of the delivery of effective HIV and AIDS prevention education programmes.

The Education Sector Response

The Namibian Ministry of Education has responded to challenges in this area by implementing education initiatives that aim to ensure that all young people possess the basic knowledge that is required to make informed decisions about behaviours related to HIV and AIDS that will protect and promote their health.

The primary school level has been identified as a crucial access point for HIV and AIDS prevention education programmes because most children attend these schools, and because of the importance of improving the knowledge of children about HIV and AIDS before they become sexually active and/or involved in high-risk behaviours.

The SACMEQ Research Programme

The Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) is a network of 15 Ministries of Education: Botswana, Kenya, Lesotho, Malawi, Mauritius, Namibia, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia and Zimbabwe.

SACMEQ's main mission is to undertake integrated research and training activities that: (a) provide educational planners with the technical skills required to monitor and evaluate the quality of their own education systems, and (b) generate information that can be used by decision-makers to plan and improve the quality of education.

The SACMEQ Consortium has undertaken three large-scale cross-national studies of the quality of education in Southern and Eastern Africa: the SACMEQ I Project (1995-1999), the SACMEQ II Project (2000-2004) and the SACMEQ III project (2006-2010). **The SACMEQ III Project included an additional data collection concerned with a detailed assessment of learner and teacher knowledge about HIV and AIDS.**

A New HIV-AIDS Knowledge Indicator

In 2006 SACMEQ's Governing Body (the SACMEQ Assembly of Ministers of Education) expressed their concern about the need for a well-designed indicator that could be used to guide informed debate about the effectiveness of HIV and AIDS prevention education programmes. The one indicator that had been widely used to judge these programmes (the "United Nations General Assembly (UNGASS) HIV-AIDS Knowledge Indicator for Young People") was known to lack validity because it was based on a short list of five test questions that were considered to be problematic in terms of wording, content coverage, and reliability.

The SACMEQ Ministers asked the SACMEQ III Project Research Teams to address information needs in this area by developing a valid HIV-AIDS Knowledge Test that would be suitable for administration to Grade 6 learners (who have average ages of 13.5 years across the SACMEQ Countries and 13.6 years in Namibia) and their teachers.

The SACMEQ HIV-AIDS Knowledge Test

The SACMEQ HIV-AIDS Knowledge Test (the HAKT) was designed to provide a valid assessment of learner and teacher knowledge about HIV and AIDS with respect to the topics specified in official school curriculum frameworks, textbooks, and teaching materials used by the SACMEQ countries. The 86 HAKT test items covered 43 curriculum topics, and they were focussed on an assessment of "the basic knowledge about HIV and AIDS that is required for protecting and promoting health". These topics were grouped into five main areas: definitions and terminology; transmission mechanisms; avoidance behaviours; diagnosis and treatment; and myths and misconceptions.

The HAKT was administered in late 2007 to 61,396 Grade 6 learners and 8,026 teachers in 2,779 schools across the 15 SACMEQ countries. In Namibia the HAKT was administered to 6,398 Grade 6 learners and 827 teachers in 267 schools. The advanced psychometric analyses applied to these data indicated that the HAKT had a high level of reliability, and that it was suitable for placing learners and their teachers on a common scale of knowledge about HIV and AIDS.

The performance of learners and teachers on the HAKT was assessed by applying two complementary scoring procedures:

- (a) "HAKT Scores" – these were Rasch-scaled scores on the HAKT that were transformed to a Grade 6 learner's average of 500 and standard deviation of 100.
- (b) "HAKT Minimal Knowledge Scores" – these were dichotomous scores that indicated whether learners or teachers reached (score=1) or did not reach (score=0) SACMEQ's "minimal" HIV and AIDS knowledge benchmark (defined as mastery of half of the official curriculum that was assessed by the HAKT).

Table 1 contains summarized information about these two scores for Grade 6 learners and teachers in Namibia's 13 education regions and SACMEQ countries. Two sets of figures have been presented in the table for these groups of respondents: (a) the Average HAKT Scores, and (b) the Average HAKT Minimal Knowledge Scores (these proportions were expressed as percentages in the table). For example, the second row of figures in **Table 1** indicated that in Namibia's Khomas Region: (a) the average HAKT Scores for learners and teachers were 554 and 764, respectively, and (b) the percentages of learners and teachers that reached the minimal level of knowledge on the HAKT were 60% and 100%, respectively.

Table 2 contains the average HAKT Scores for groups of Namibia's Grade 6 learners defined by four demographic variables: Socioeconomic Status, Location, Gender, and Age. For example, the first row of figures in **Table 2** indicated that learners from high socioeconomic status families had a higher average HAKT Score (527.0) than learners from low socioeconomic status families (482.6), and that the difference between these averages (44.4) exceeded two standard errors of sampling (11.8).

Note that SACMEQ Projects use learners as the units of analysis. Therefore, teacher statistics such as means refer to teacher characteristics associated with the average learner.

Learner Knowledge Levels

(a) SACMEQ Countries

The average HAKT Scores for Grade 6 learners provided a means of making relative comparisons of knowledge levels among SACMEQ countries. The results presented in the first column of **Table 1** showed that: (a) Grade 6 learners averages ranged from a low of 453 in Mauritius to a high of 576 in Tanzania, and (b) the Namibian learners' average of 502 was just above the SACMEQ overall average of 500.

These average HAKT Scores for Grade 6 learners were dangerously deceptive. They suggested that learners' knowledge levels about HIV and AIDS for Namibia were "satisfactory" because they were slightly higher than the overall SACMEQ average. However, an examination of average HAKT Minimal Knowledge Scores suggested the need for a dramatically different conclusion!

The average HAKT Minimal Knowledge Scores for Grade 6 learners provided a means of making **normative comparisons** of knowledge levels among SACMEQ countries. (*NOTE: It was expected that 100% of learners in all SACMEQ countries should reach the minimal knowledge level.*)

The results presented in the second column of **Table 1** showed that: (a) the percentages of learners with minimal knowledge ranged from 17% in Mauritius to 70% in Tanzania, and (b) the percentage of Namibia's learners that reached the minimum knowledge level was a low value of 36%. **That is, the percentages of learners reaching the minimal knowledge level in Namibia and all other SACMEQ countries were far below the expectation of 100%.**

The results described above indicated that major alarm bells should be ringing in Namibia because in 2007 nearly two thirds of Grade 6 learners (64%) lacked the minimal knowledge about HIV and AIDS that is required for protecting and promoting health. In most other SACMEQ countries the situation was also very serious – with a majority of learners lacking the minimal knowledge.

(b) Namibia's Education Regions

The figures for Namibia's education regions presented in the first column of **Table 1** showed very large regional variations in Grade 6 learners' knowledge about HIV-AIDS. The high average HAKT Score of 554 for Khomas Region placed this region just below the highest scoring SACMEQ country (Tanzania). In contrast, the average HAKT Score of 454 for Omusati Region placed this region below all SACMEQ countries with the exception of the lowest scoring country (Mauritius).

The average HAKT Minimal Knowledge Scores for Namibia's education regions in the second column of **Table 1** also highlighted substantial regional variations in Grade 6 learner's knowledge about HIV and AIDS. The percentage of learners in Khomas Region (60%) that reached SACMEQ's minimal HIV and AIDS knowledge benchmark was over four times larger than observed in Omusati Region (14%).

Teacher Knowledge Levels

In the third and fourth columns of figures in **Table 1** the average HAKT Scores and average HAKT Minimal Knowledge Scores have been presented for teachers in the SACMEQ countries and Namibia's regions. The figures showed that the average HAKT Score for teachers exceeded 700 for most SACMEQ countries, and for SACMEQ overall it reached 746 – almost 250 points above the Grade 6 learners average of 500.

In Namibia, the average HAKT Score for teachers was 764 at the national level, and was in the range of around 740 to 815 for all regions. In addition the percentages of teachers that reached SACMEQ's minimal knowledge benchmark of mastering at least one half of the official school curriculum were around 100% for all SACMEQ countries and all of Namibia's regions.

This major contrast between the very high knowledge levels of teachers and the very low knowledge levels of their Grade 6 learners came as a complete surprise to the SACMEQ Research Teams. They had assumed that teachers with high levels of knowledge about HIV and AIDS should be able to transmit this important information to their learners. This assumption was obviously faulty and certainly requires further research.

One area of enquiry should focus on the opportunity that Grade 6 learners have to learn about HIV and AIDS – because a very high percentage (28%) of Namibia's Grade 6 learners reported that they had "never attended classes/lessons on HIV and AIDS during the current school year".

Demographic Differences in Knowledge

In **Table 2** some research results have been presented in order to examine demographic differences in the HIV and AIDS knowledge of Namibia's Grade 6 learners. Four variables were used to generate groups of learners for making comparisons of average HAKT Scores.

Differences in group averages were greater than two standard errors (**) for the Socioeconomic Status, Location and Age variables. Learners from wealthier backgrounds, learners in urban locations, and younger learners demonstrated much higher knowledge about HIV and AIDS. No significant differences were observed for learner groups defined by Gender.

Four Research-Based Conclusions

1. Low Learner Knowledge Levels

Knowledge levels about HIV and AIDS among around two thirds (64%) of Namibia's Grade 6 learners in 2007 were below SACMEQ's "minimal" knowledge benchmark (which was defined as mastery of at least half of the official school curriculum).

The Ministry of Education should acknowledge that HIV and AIDS prevention education programmes need to be monitored and evaluated in order to ensure that they are working effectively.

2. Large Regional Differences in Knowledge

There were large differences in Grade 6 learner's knowledge about HIV and AIDS among education regions in Namibia.

The Ministry of Education should: (a) investigate the reasons for these differences, and (b) find out why knowledge levels were so low in Omusati and Oshikoto Regions.

3. Learner-Teacher "Knowledge Gap"

There was a large HIV and AIDS "knowledge gap" between Namibia's Grade 6 learners and their teachers.

The Ministry of Education should: (a) investigate why well-informed teachers were not able to transmit this important knowledge to most of their learners, and (b) review pre-service and in-service training programmes to ensure that teachers are trained in both subject matter knowledge ("what to teach about HIV and AIDS"), and pedagogy ("how to teach about HIV and AIDS").

4. Demographic Differences in Knowledge

There were significant differences in knowledge about HIV and AIDS between groups of Namibia Grade 6 learners defined by Socioeconomic Status, Location, and Age.

The Ministry of Education should expand and intensify the delivery of HIV and AIDS prevention education programmes in poor communities and rural communities.

The Ministry of Education should also investigate why younger Grade 6 learners had higher levels of knowledge about HIV and AIDS than older Grade 6 learners.

A Concluding Comment

All children need to have the basic knowledge about HIV and AIDS that is required to protect and promote their health. However, it is clear from the SACMEQ III Project research results that in 2007 around two thirds of the Grade 6 learners in Namibia did not have this minimal level of knowledge.

This is indeed alarming because Grade 6 learners in Namibia (with an average age of 13.6 years) are entering a stage of mental and physical development where they may become sexually active, and/or may choose to become involved in high-risk behaviours.

The Ministry of Education should therefore take immediate action to: (a) address the research-based conclusions presented above, and (b) facilitate the development and implementation of more effective HIV and AIDS prevention education programmes that focus on the upper grades of primary school.

References

Namibia (2010). HIV-AIDS UNGASS Progress Report. Windhoek: Government of Namibia.

UNAIDS (2010). Global Report. New York: Joint UN Programme on HIV-AIDS.

Authors

Leopoldine Amadhila
(lamadhila@mec.gov.na)

Helena Miranda
(hmiranda@unam.na)

Sem Shikongo
(sshikongo@mec.gov.na)

Raimo Dengeinge
(draimo@mec.gov.na)

SACMEQ wishes to acknowledge the generous financial assistance provided by the Ministry of Foreign Affairs of the Government of the Netherlands in support of its research and training programmes.

Table 1
Learner and Teacher Scores on the
SACMEQ HIV-AIDS Knowledge Test (HAKT)

	LEARNERS		TEACHERS	
	HAKT Score	Reached Minimal Level (%)	HAKT Score	Reached Minimal Level (%)
TANZANIA	576	70	724	99
Namibia: Khomas	554	60	764	100
Namibia: Erongo	549	59	796	100
SWAZILAND	531	52	759	100
Namibia: Ohangwena	530	50	774	100
Namibia: Karas	520	45	801	100
MALAWI	512	43	714	99
Namibia: Otjozondjupa	510	42	752	100
KENYA	509	39	793	100
MOZAMBIQUE	507	40	741	99
Namibia: Hardap	507	41	798	100
Namibia: Kunene	504	39	740	100
SOUTH AFRICA	503	35	781	100
NAMIBIA	502	36	764	99
ZANZIBAR	501	38	657	94
BOTSWANA	499	32	782	100
Namibia: Caprivi	498	34	746	100
Namibia: Kavango	491	30	743	100
Namibia: Omaheke	491	31	815	100
Namibia: Oshana	491	32	753	100
UGANDA	489	33	708	98
ZAMBIA	488	35	744	98
SEYCHELLES	488	25	789	99
ZIMBABWE	477	30	785	99
Namibia: Oshikoto	476	19	790	100
LESOTHO	465	19	751	98
Namibia: Omusati	454	14	737	97
MAURITIUS	453	17	698	98
SACMEQ	500	36	746	99

Table 2
Average HAKT Scores for Namibian Learners
across Four Demographic Variables

DEMOGRAPHIC VARIABLE	1st Group	2nd Group	Diff (SE)
Socioeconomic Status (Low/High)	482.6	527.0	44.4 (5.9)**
Location (Isolated-Rural-Town/City)	490.9	548.8	57.9 (7.5)**
Gender (Males/Females)	500.0	503.9	3.9 (5.1)
Age (Younger/Older)	514.4	484.8	-29.6 (5.6)**

Diff = Difference

Figure 1
Variation in learner knowledge about HIV
and AIDS among SACMEQ school
systems and among regions in Namibia

