

KNOWLEDGE TRANSMISSION BY STORY TELLING

Malaria Education of School-Aged Children in the Kwahu- Eastern Region, Ghana

“ANANSI TRICKS MRS. MOSQUITO”

Edward A. Gotfried D.O., FACOS
Director of the NYIT Center for Global Health

Abstract

We developed an educational tool to teach Ghanaian children the benefit of using malaria bed-nets to increase awareness/prevention of Malaria. Puppets, Comic books, and Videos demonstrated a visual approach constructed upon the ancient Ashanti art of “story telling”, using Anansi the Spider. Traditional or indigenous characters in stories make learning more enjoyable to children, guiding them towards comprehensive understanding. The knowledge achieved serves as a foundation for health education. Through myths and legends, we pass on our visions, values, feelings and memories in a way that is both enjoyable and entertaining. The best stories are those that motivate, inspire and connect – stories that make students feel some emotion and allow them to see themselves in similar situations. Students treasured the book, ANANSI TRICKS MRS. MOSQUITO. Older students read it to their younger siblings; elders in African societies encourage such teaching as transmission of knowledge.

Keywords: Malaria, education, story telling, anansi

Introduction

The World Health Organization, (WHO 2012) reports, “Malaria - an entirely preventable and treatable disease - takes the life of an African child every minute”.¹ Malaria accounts for one in five of all childhood deaths in Africa and of the 660,000 annual malarial deaths worldwide, over 75% occur in African children less than 5 years old. Malaria also causes severe morbidity in children, such as anemia, low birth-weight, epilepsy, and neurological problems, which compromise the health and development of millions of children living in malaria endemic areas.² The most vulnerable communities in the world continue to lack sufficient access to long-lasting insecticidal nets, (LLINs). In several sub-Saharan African countries, the rapid, widespread implementation of insecticide treated nets, which can prevent malaria by protecting those sleeping under them from the bites of night-flying malaria parasite-carrying mosquitoes, has been accompanied by significant reductions in child deaths. These are real life findings that reflect the results of clinical trials and support continued efforts to scale-up and maintain LLIN coverage in sub-Saharan Africa.³

Main Text

In 2011 The NYIT Center for Global Health began developing an educational tool to teach children in Oworobong, Ghana the benefit of using long lasting insecticide treated malaria bed-nets. We decided on a West African folktale with characters to which children could relate. Our goal was to increase awareness of malaria and it’s prevention in Oworobong Ghana during a three-week-long outreach project designed to provide health care during the summer of 2011. In the end we developed a multidisciplinary project with the NYIT School of Education, and the NYIT College of Osteopathic Medicine. The project involved students

and faculty of the NYIT Center for Global Health performing a play with rod puppets; our puppets were about 2 feet tall and were manipulated by sticks or rods. They were created to be lightweight and durable in the extreme heat and humidity of West Africa. The play was presented at schools during the day, and since there was no electricity it was performed using flashlights and headlamps at night. Students and faculty of the NYIT Center for Global Health performed the puppet play during their 3-week outreach project to Oworobong Ghana. Translation was delivered in Twi, the native language of Ghana, and English because school children are taught in English. Approximately 500 Ghanaian students, 100 at each of 5 village primary school sites located about a 1 to 1^{1/2} hour hike from Oworobong, saw these performances. A question and answer session was conducted following each performance of the play. Children demonstrated immediate recall of the signs and symptoms of malaria, the mosquito as the disease vector, and the benefit of prevention by using a bednet. Fifty malaria bed-nets, donated by the manufacturer Best Net[®], were given to teachers at the schools for further distribution.

In 2012 educational content was reinforced by the development of an illustrated book, created and published by the Publications and Advertising Office at NYIT. As English is the official language of Ghana, the story was written in English with the character names in Twi. Several hundred copies of the book were brought to Oworobong and given to children at the end of each performance of the play. The book ANANSI**TRICKS MRS. MOSQUITO quickly became a “treasure”. Books had never been given to children in Oworobong. Older students read it to their younger siblings and friends. ** Based upon the illustration of Gerald McDermott

Sibling teaching is encouraged by elders in African societies, and is seen as transmission of knowledge. It is characterized by the inclusion of traditional games, singing, dancing, use of riddles and storytelling. Some of the songs and stories observed during sibling teaching have moral lessons or values embedded in them. Therefore, along with learning in a pleasurable atmosphere by listening to stories children learn the values that are upheld in their society.⁴ Many African societies readily practice sibling teaching and care-giving, part of children’s training for responsibilities they will be expected to perform in the future as adults and parents. Older children then have the skills necessary to teach their younger siblings various concepts or values and young children are likely to pay attention to their older brother or sisters.

The innovative project collaboratively produced at NYIT, which utilizes rod-puppets, graphic comic books, and videos reconstructs this ancient art of “story telling”, or in the Ashanti culture, established in Ghana during the 11th or 12th century Anansesem⁵ “ Spider tales”, to advance health, well-being and disease prevention.⁶ Many Ashanti folktales focus on Anansi the Spider, the popular trickster character of Ashanti folklore, who serves alternately as hero, villain, moral inspiration, and comic relief. His presence in Ashanti folklore appears to be ancient, for he figures not only in humorous tales but also in some that have the character of creation myths. Anansi is responsible for the moon, (or sun), being in the sky. Anansi is also the owner of all stories that are told, and therefore when a man wishes to tell a tale he first acknowledges that it belongs to Anansi.^{7,8} Using traditional or indigenous characters in stories makes learning enjoyable to children, and guides them towards a more comprehensive understanding. The knowledge achieved by children in this fashion may serve as a foundation for health education. Storytelling is a fundamental part of human culture. Through myths, folktales and legends we pass on our visions, values, feelings and memories in a way that is enjoyable and entertaining. The best stories are those that motivate, inspire and connect with students – stories that make them feel some emotion and allow them to see themselves in similar situations. “Every mythology has to do with the wisdom of life as related to a specific culture at a specific time”⁹ When children are able to “reflect upon and integrate information with what they already know they will remember it better”. “Stories

provide a simple way of combining verbal and visual information. If the story is sufficiently clear or dramatic, it will almost certainly stimulate visual images complementing the story line, providing a vicarious experience that results in a greater likelihood of being remembered.”¹⁴

“It is crucial to realize that any thinking done about development in Africa without including the arts is redundant thinking”¹²

In this area of Ghana where there is limited infrastructure, minimal resources for the delivery of health care or its evaluation, perhaps research utilizing observational methods might be appropriate.¹⁵ Does utilizing Story-telling as a transmission of knowledge, such as in Anansi Tricks Mrs. Mosquito, result in an increased use of long-lasting insecticidal nets, (LLINs), and in the reduction of Malaria cases in children under the age of 5 in rural Ghana? On our subsequent visits we will evaluate how many books remain as well as how many bed-nets are being utilized, and whether there is a reduction in childhood malaria cases.

Here is a description by a medical student of his participation and experience with the Anansi Play during the summer outreach project of 2012. “At many of the schools we acted out the Anansi play only to be amazed at the interest and interaction shown by the kids simply from cardboard puppets and strings. The plays best night was the first night. After a full day of practicing the puppets (i.e. figuring out how to hold them best without being crooked, ensuring they were up against the white cloth the entire time, making sure the puppets shook as the translators served as their voices and ironing out all other details) we finally debuted the play to a giant audience of locals from around Oworobong. Spotlights consisted of 6-7 headlamps shining brightly from all angles. Each person's puppet slowly became 'their' character over time as we mastered how to put the puppets in and out and how to appropriately 'act' each one. By our 5th or 6th showing, the play had been done so many times there were very little mistakes. All we needed to find each time was two sticks to hold up the backdrop and a group of engaging children - both of which seemed plentiful. Personally, what made me most proud was that we were actually helping the community's when everyone was opened to questions after the play was over. To see the kids ask about malaria and how it can spread showed me that they were in fact learning from the play and took it to heart. This was one of my primary goals of the entire trip - to promote health and wellbeing in anyway that I can.”¹⁰

It is clear from this passage that the medical student was participating in his own learning even as he brought lessons to the community in Ghana. The skills acquired by our medical student(s) through the theatrical performance of the Anansi story included “the altruistic joys of teaching and of compassion” and the realization that a simple puppet show and story book could change a child's life. This project provides a wonderful example of “the arts leading the way”,¹² in a form of medical humanities that promotes what A. Kleinman has called the “interpersonal skills of kindness, respect, compassion and communicative competence, are the building blocks of what it means to be a physician”.¹¹

Our use of a Ghanaian folktale character, Anansi the Spider, as the protagonist in our created story, allows for the transfer of knowledge to the listener. We created the story to appeal to children primarily and discovered that adults equally enjoyed it. It was constructed to encourage the use of long lasting insecticide treated bed nets in communities where Malaria was prevalent. “Ever since human beings have communicated and socially interacted with each other, stories have played a vital role in exchanging and propagating complex ideas and disclosing knowledge. In every culture, different stories exist and have been used to preserve and pass on knowledge from generation to generation. Stories are in a certain intrinsic sense interesting, because they are an attractive high-priority memory booster. With purpose and a meaning behind it, stories will draw and grasp the attention of any audience and in this sense will outperform any logical argument”.¹⁶

“Storytelling is one of the oldest forms of communication and is an integral part of most cultures. Stories are familiar and comfortable, which perhaps contributes to their widespread appeal as a potential knowledge transfer strategy. We all can remember the allure of stories as children and how stories were used as a strategy to teach important life lessons. Storytelling—both the telling and the listening—is a hard-wired human instinct (Gardner, 2008).”¹⁷

“Stories can be shared as a way of simplifying complex issues or capturing the attention of others. It's thought that stories “work” through establishing an emotional connection with the reader and then provoking an emotional response that may facilitate enhanced knowledge retention. A simple anecdote or story may be more powerful in persuading individuals to adopt a particular approach to health care than only the results from rigorous research.”¹⁸ We utilized our Anansi story as a way to teach children, and parents, the benefits of using Insecticide Treated Malaria Bednets. In the long term we must look for “Behavioral changes” that result in more consistent use of bed nets and the reduction of Malaria.

In 2011 The NYIT Center for Global Health began developing an educational tool to teach children in Oworobong, Ghana the benefit of using long lasting insecticide treated malaria bed-nets. We decided on a West African folktale with characters to which children could relate. Our goal was to increase awareness of malaria and it's prevention in Oworobong Ghana during a three-week-long outreach project designed to provide health care during the summer of 2011. In the end we developed a multidisciplinary project with the NYIT School of Education, and the NYIT College of Osteopathic Medicine. The project involved students and faculty of the NYIT Center for Global Health performing a play with rod puppets; our puppets were about 2 feet tall and were manipulated by sticks or rods. They were created to be lightweight and durable in the extreme heat and humidity of West Africa. The play was presented at schools during the day, and since there was no electricity it was performed using flashlights and headlamps at night. Students and faculty of the NYIT Center for Global Health performed the puppet play during their 3-week outreach project to Oworobong Ghana. Translation was delivered in Twi, the native language of Ghana, and English because school children are taught in English. Approximately 500 Ghanaian students, 100 at each of 5 village primary school sites located about a 1 to 1^{1/2} hour hike from Oworobong, saw these performances. A question and answer session was conducted following each performance of the play. Children demonstrated immediate recall of the signs and symptoms of malaria, the mosquito as the disease vector, and the benefit of prevention by using a bednet. Fifty malaria bed-nets, donated by the manufacturer Best Net[®], were given to teachers at the schools for further distribution.

In 2012 educational content was reinforced by the development of an illustrated book, created and published by the Publications and Advertising Office at NYIT. As English is the official language of Ghana, the story was written in English with the character names in Twi. Several hundred copies of the book were brought to Oworobong and given to children at the end of each performance of the play. The book ANANSI**TRICKS MRS. MOSQUITO quickly became a “treasure”. Books had never been given to children in Oworobong. Older students read it to their younger siblings and friends. ** Based upon the illustration of Gerald McDermott

Sibling teaching is encouraged by elders in African societies, and is seen as transmission of knowledge. It is characterized by the inclusion of traditional games, singing, dancing, use of riddles and storytelling. Some of the songs and stories observed during sibling teaching have moral lessons or values embedded in them. Therefore, along with learning in a pleasurable atmosphere by listening to stories children learn the values that are upheld in their society.⁴ Many African societies readily practice sibling teaching and care-giving, part of children's training for responsibilities they will be expected to perform in the future as adults

and parents. Older children then have the skills necessary to teach their younger siblings various concepts or values and young children are likely to pay attention to their older brother or sisters.

The innovative project collaboratively produced at NYIT, which utilizes rod-puppets, graphic comic books, and videos reconstructs this ancient art of “story telling”, or in the Ashanti culture, established in Ghana during the 11th or 12th century Anansesem⁵ “ Spider tales”, to advance health, well-being and disease prevention.⁶ Many Ashanti folktales focus on Anansi the Spider, the popular trickster character of Ashanti folklore, who serves alternately as hero, villain, moral inspiration, and comic relief. His presence in Ashanti folklore appears to be ancient, for he figures not only in humorous tales but also in some that have the character of creation myths. Anansi is responsible for the moon, (or sun), being in the sky. Anansi is also the owner of all stories that are told, and therefore when a man wishes to tell a tale he first acknowledges that it belongs to Anansi.^{7, 8} Using traditional or indigenous characters in stories makes learning enjoyable to children, and guides them towards a more comprehensive understanding. The knowledge achieved by children in this fashion may serve as a foundation for health education. Storytelling is a fundamental part of human culture. Through myths, folktales and legends we pass on our visions, values, feelings and memories in a way that is enjoyable and entertaining. The best stories are those that motivate, inspire and connect with students – stories that make them feel some emotion and allow them to see themselves in similar situations. “Every mythology has to do with the wisdom of life as related to a specific culture at a specific time”⁹ When children are able to “reflect upon and integrate information with what they already know they will remember it better”. “Stories provide a simple way of combining verbal and visual information. If the story is sufficiently clear or dramatic, it will almost certainly stimulate visual images complementing the story line, providing a vicarious experience that results in a greater likelihood of being remembered.”¹⁴

“It is crucial to realize that any thinking done about development in Africa without including the arts is redundant thinking”¹²

In this area of Ghana where there is limited infrastructure, minimal resources for the delivery of health care or its evaluation, perhaps research utilizing observational methods might be appropriate.¹⁵ Does utilizing Story-telling as a transmission of knowledge, such as in Anansi Tricks Mrs. Mosquito, result in an increased use of long-lasting insecticidal nets, (LLINs), and in the reduction of Malaria cases in children under the age of 5 in rural Ghana? On our subsequent visits we will evaluate how many books remain as well as how many bed-nets are being utilized, and whether there is a reduction in childhood malaria cases.

Here is a description by a medical student of his participation and experience with the Anansi Play during the summer outreach project of 2012. “At many of the schools we acted out the Anansi play only to be amazed at the interest and interaction shown by the kids simply from cardboard puppets and strings. The plays best night was the first night. After a full day of practicing the puppets (i.e. figuring out how to hold them best without being crooked, ensuring they were up against the white cloth the entire time, making sure the puppets shook as the translators served as their voices and ironing out all other details) we finally debuted the play to a giant audience of locals from around Oworobong. Spotlights consisted of 6-7 headlamps shining brightly from all angles. Each person's puppet slowly became 'their' character over time as we mastered how to put the puppets in and out and how to appropriately 'act' each one. By our 5th or 6th showing, the play had been done so many times there were very little mistakes. All we needed to find each time was two sticks to hold up the backdrop and a group of engaging children - both of which seemed plentiful. Personally, what made me most proud was that we were actually helping the community's when everyone was opened to questions after the play was over. To see the kids ask about malaria and how it can spread showed me that they were in fact learning from the play and took it to heart. This was

one of my primary goals of the entire trip - to promote health and wellbeing in anyway that I can.”¹⁰

It is clear from this passage that the medical student was participating in his own learning even as he brought lessons to the community in Ghana. The skills acquired by our medical student(s) through the theatrical performance of the Anansi story included “the altruistic joys of teaching and of compassion” and the realization that a simple puppet show and story book could change a child’s life. This project provides a wonderful example of “the arts leading the way”,¹² in a form of medical humanities that promotes what A. Kleinman has called the “interpersonal skills of kindness, respect, compassion and communicative competence, are the building blocks of what it means to be a physician”¹¹

“Ever since human beings have communicated and socially interacted with each other, stories have played a vital role in exchanging and propagating complex ideas and disclosing knowledge. In every culture, different stories exist and have been used to preserve and pass on knowledge from generation to generation. Stories are in a certain intrinsic sense interesting, because they are an attractive high-priority memory booster. With purpose and a meaning behind it, stories will draw and grasp the attention of any audience and in this sense will outperform any logical argument”.¹⁶

“Storytelling is one of the oldest forms of communication and is an integral part of most cultures. Stories are familiar and comfortable, which perhaps contributes to their widespread appeal as a potential knowledge transfer strategy. We all can remember the allure of stories as children and how stories were used as a strategy to teach important life lessons. Storytelling—both the telling and the listening—is a hard-wired human instinct (Gardner, 2008).”¹⁷

“Stories can be shared as a way of simplifying complex issues or capturing the attention of others. It's thought that stories “work” through establishing an emotional connection with the reader and then provoking an emotional response that may facilitate enhanced knowledge retention. A simple anecdote or story may be more powerful in persuading individuals to adopt a particular approach to health care than only the results from rigorous research.”¹⁸ We utilized our Anansi story as a way to teach children, and parents, the benefits of using Insecticide Treated Malaria Bednets. In the long term we must look for “Behavioral changes” that result in more consistent use of bed nets and the reduction of Malaria.

Article 27.1 of the UN Declaration of Human Rights states:

- (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.¹³

Conclusion

Our use of a Ghanaian folktale character, Anansi the Spider, as the protagonist in our created story, allows for the transfer of knowledge to the listener. We created the story to appeal to children primarily and discovered that adults equally enjoyed it. It was constructed to encourage the use of long lasting insecticide treated bed nets in communities where Malaria was prevalent. The use of folktales and indigenous characters to teach with can be easily adapted to any culture and for any desired Knowledge Transfer. Folktales have the ability to educate children, and provide entertainment and communication, as well as being repositories of culture and value.¹⁹

References:

World Health Organization Malaria Report 2012 Foreword by Dr. Margaret Chen Director General
http://www.who.int/malaria/publications/world_malaria_report_2012/wmr2012_foreword.pdf

Roll Back Malaria Briefing Document:
http://whqlibdoc.who.int/hq/2002/WHO_CDS_RBM_2002.38_eng.pdf
World Health Organization: World Malaria Report Fact Sheet 2012
http://www.who.int/malaria/publications/world_malaria_report_2012/wmr2012_factsheet.pdf
Handbook of African Educational Theories and Practices: A Generative Teacher Education Curriculum. 2011 by Human Development Resource Centre (HDRC) Bamenda, North West Region (Cameroon) Web: www.thehdrc.org. Chapter 17: Sibling caregiving and the teaching roles of children.
Appiah, Peggy: Anansi Tales
<http://www.princeton.edu/~achaney/tmve/wiki100k/docs/Anansi.html>
Mayrowitz E.L.R.: The Akan of Ghana. Faber & Faber Ltd., London 1958
Why Spider is King of Stories: The Message in the Medium of a West African Tale. M. E. Kropp Dakubu, African Languages and Cultures, Vol. 3, No. 1 (1990), pp. 33-56, Published by: Taylor & Francis, Ltd.
Perrin, Pat: Anansi and the Box of Stories 2007 <http://redroom.com/member/pat-perrin/writing/anansi-and-the-box-of-stories>
Campbell, J., Moyers B. The Power of Myth. Doubleday 1988
Rehmani, Ahmad: 2nd yr. Medical Student NYITCOM 2012
Kleinman, Arthur: The divided self, hidden values, and moral sensibility in medicine. The Lancet Volume 377, Issue 9768, Pages 804 - 805, 5 March 2011
Clayton, Gavin: Is there a role for the arts in addressing health inequalities within Sub-Saharan Africa? Submitted to fulfill the requirements of the Clore Leadership Programme with support from the Arts and Humanities Research Council. Canterbury Christ Church University 2009
General Assembly of the United Nations, New York (1948) Universal Declaration of Human Rights <http://www.un.org/en/documents/udhr/index.shtml>
Swap, W., Leonard, D., Shields M., Abrams L.: Using Mentoring and Storytelling to Transfer Knowledge in the Workplace. Journal of Management Information Systems 18, no. 1 (summer 2001)
Farmer, Paul: Clinical trials and global health equity. The Lancet Global Health Volume 1, August 2013
Haghirian, P. & Chini,T. (2003) Storytelling: Transferring tacit corporate knowledge in different cultures. Second annual Euram Conference.
Shannon D. Scott RN, PhD, Lisa Hartling BScPT, MSc, Terry P. Klassen MD, MSc, FRCPC. The Power of Stories. Nursing for Women's Health Volume 13, Issue 2, pages 109–111, April/May 2009 <http://onlinelibrary.wiley.com/doi/10.1111/j.1751-486X.2009.01401.x/full>
Kosko, J., Klassen, T., Bishop, T., & Hartling, L. (2006). Evidence-based medicine and the anecdote: Uneasy bedfellows or ideal couple? Pediatrics & Child Health, 11 (10), 665–668
Sharma, Chandra S. Bhutanese Folktales: Common Man's Media with Missions for Society 2007 Journal of Bhutan Studies <http://www.dspace.cam.ac.uk/handle/1810/227026>