



## Five-Year Experience of Malawi College of Medicine with “Learning by Living” Program

The College of Medicine at the University of Malawi was open in 1991 as the only medical school in the country (1). Currently, the Medical College trains only medical doctors, although there are plans to train medical laboratory scientists, pharmacists, dentists, and physiotherapists. The College offers postgraduate programs in a number of clinical specializations and a two-year Master of Public Health (MPH) program that was started in 2003. The College also provides a Certificate Course in Tropical Medicine, which is mainly aimed at physicians who received their medical training and/or practiced in the developed world but have an interest in tropical or international health.

The historical record and perspective of the Malawi College of Medicine has been published elsewhere (2-5). The College of Medicine admitted the first group of freshmen in 1994 and these students graduated after 5 years in 1999. Before that time, students were first sent to Australia, UK, and South Africa before coming back to the College for clinical part of the education and completion of their studies. There are mainly four ways of entry into the five-year Bachelor of Medicine and Bachelor of Surgery programs. The criteria are as follows: minimum C grade at A-Level in Biology, Chemistry, and one more science subject; completion of at least two years of a Bachelor of Science degree course with obtained credit grades in Chemistry, Biology, and a third science subject; having an approved science degree; and having successfully completed an approved premedical course. The College of Medicine introduced a one-year premedical course in 2002, because of a dwindling pool of potential students from the first three categories as listed above. Thus, for the col-

lege to have a steady pool of potential medical students, offering the pre-medical course became imperative.

The Malawi College of Medicine’s curriculum is community-oriented or community-based. This is achieved by allocating 18-25% of the teaching time in each year to community and public health. At all years, except year 4, students have to do part of their education, called “Learning by Living,” at a satellite unit of the Department of Community Health in Mangochi, southern Malawi, about 200 km from the main campus of the college in Blantyre.

### “Learning By Living” Approach

As the College of Medicine started enrolling students who had received pre-clinical training abroad, it was soon realized that many students who passed through the Mangochi teaching unit for senior student community health training” expressed interest in being exposed to rural life. Although Malawi is one of the most rapidly urbanized countries in Africa, according to the 1998 National Population Census, only 16% of the population lives in urban areas (6). Therefore, training of Malawi’s physicians in rural areas made sense. Such an approach may enable our graduates to appreciate more the living conditions of the majority of our patients. Also, it is expected that, due to that exposure, most of the graduates will choose to work in rural areas, where the majority of the population lives.

In the “Learning by Living” approach, students are allocated to rural households in Mangochi, where they stay with the rural family 5-7 days. A traditional authority area comprises a group of villages, which may stretch across 20-40

km in radius. A health worker, known as a health surveillance assistant, is assigned to seek permission from the village headmen or headwomen for the students to stay in the area. The health surveillance assistant also identifies households and seeks permission from a household head to allow a student to stay at their home for a specified period of time. Normally students are allocated randomly to the households, but there are exceptional situations where this method is not appropriate. For instance, international students who do not speak local language must be allocated to households where the head speaks English. As for Malawian students, language is not a limiting factor, although some of them cannot speak fluently the official language of the country, *Chichewa Yao* is the most commonly spoken language in Mangochi (7).

The household is provided with food – dried beans, cabbage, sugar, powdered milk, maize flower – and given MK100 (US\$1.80) per day of the student's stay. The aim is that the student lives at the household just like any other member of the family.

A day before going to the rural households, the students are briefed on cultural aspect of rural life and trained briefly on qualitative research methods, mainly in-depth interviews using key-informants, personal observations, and group interviews. They are also introduced to several "potential" research topics and expected to conduct research during their stay in the rural household and community. Topics are usually broad, such as common problems in the village, common health problems in the village, community governance structure, cultural and religious beliefs, sexual and reproductive health, and nutrition and feeding practices of children under 5 years of age. When the students complete their stay in the village, we gather for de-briefing. They make an oral presentation of their experiences in the rural household and community, present the findings of their research, and make recommendations on how to solve the community problems. The students also have to provide their "Learning by Living" report in writing, which is evaluated just like the oral presentation. "Learning by Living" approach has been recognized as an innovative way of training medical students in community health and has won international medical education prizes.

### Methodology of Review

This report deals with experiences and research findings of undergraduate medical students at Malawi College of Medicine for the period 2001-2005. It is based on the students' oral presentations from the de-briefing sessions after the "Learning by Living" program and students' evaluation reports for 2005. Content and discourse analyses were used to evaluate de-briefing sessions reports (8). The theme categories of analysis included students' acceptance of the "Learning by Living" program, perceptions of both the community and the students about the program, health problems facing the community, and students' recommendations on solving the community problems.

### Acceptability of Learning by Living by Students

Generally, students have positive attitudes towards "Learning by Living" program, describing it as an eye-opener to rural life. Students also appreciate the less hectic life in a rural community. As one student reported: *It was like a holiday for me. Unfortunately, you only got used to the environment by the fifth or sixth day. By which time, you are leaving the community.*

However, because of the living conditions specific to individual households and the shift from a predominantly urban environment, most students experience a cultural shock. For example, one of the students said: *Yes I liked the place, but where I was sleeping kind of had lizards, mosquitoes, ants, and other kinds of insects.*

Students in the "Learning by Living" program are provided with an insecticide-treated bed net and a 10-mm thick mattress roll. One student has reported: *Yes I did enjoy myself; the hospitality of my family was amazing. I am happy I am back now, though.*

In most communities in Mangochi, the soils are sandy and construction of pit latrines is fraught with enormous challenges. The pit, from which the latrine is constructed, must be reinforced if the latrine is to withstand flooding and lack of integrity of the sandy soils. It is, therefore, technically difficult for most households to build a pit latrine.

The program brings students to rural households where they live, observe, and behave

just like any other family member. It gives them respite from the extremely demanding student life and students may like it for the little stress that it offers and appreciate the lessons they learn from rural communities. However, not having the relative comfort of the medical school dormitories or their own households is for some students a source of complaints.

In 2005, on the last day of the program, students were requested to complete an evaluation form. Out of 36 students that participated in the evaluation, 6 reported that living in the rural areas was easy, 21 fairly easy, 7 a bit difficult, and 1 found it very difficult. When asked whether "Learning by Living" module had improved their understanding of rural life, 12 indicated that their understanding of rural life improved very much, 20 quite, 2 a little, and 1 not at all.

#### Integration within Host Family

Both the students and the members of host households are told that the students should live like a family member, ie, mostly like a child in the family. The student is expected to participate fully in doing household chores and to eat what other family members do. Students have reported having contributed to gardening during the farming season and preparing meals. However, their inclusion in household chores is more of an exception than a rule. In most of the cases, families treat the students as "special guests" rather than "a family member," as we suggest to them. As one student reported: *The more I like to behave like a member of the household, the more they treat me like a special guest. I had no choice. I couldn't stop them.*

Students also report that families may change their usual way of living while students live with them. Thus, to observe the families' usual living situations, culture and other behaviors is impractical. About one family's eating habits, a student reported: *We could have tea in the morning, an hour later we have boiled peanuts, and then pumpkins, thereafter nsima and an hour later, pumpkins. We just thought we were there sleeping and eating their food. They did not allow us to work.*

This practice has been rather difficult to change. The members of a household are aware of having a "visitor" under their roof and for them to behave as if nothing has changed is a challenge. Perhaps we should accept that families can only try to "pretend" as if there were no visitors around.

#### Identification of Health Problems

Students have to inquire about health problems in their host communities, using qualitative methods. They use focus group discussions, in-depth interviews with key informants, and observation of the environment. As pre-clinical students, this exercise provides them with an opportunity to have some insight into the problems of rural communities. One student, commenting on malnutrition in children under 5 said: *Children are not eating because they have this condition that they are born with, they have a large spleen.*

Another student said: *I could see that very, very young children were not having breakfast. Even children with a full set of teeth were still breastfed.* She pointed out that children should have adequate breakfast. When asked as to what age she thought exclusive breast feeding ought to be stopped, the student had no idea what the recommended age of introducing supplemental feeding was. At the stage when our students are involved in "Learning by living" program, they have still not been taught about child feeding practices. Their interpretation and/or perception of what they observe in the communities is, therefore, problematic. In the case of "very, very young children," the rural communities were probably right about continuing breast feeding.

Commenting on the causes of death, a student reported: *Most people in this community die from hemophilia, and some have intestinal worms that are causing deaths.* Whereas there is no doubt that hemophilia and helminthiasis can cause death – hemophilia through bleeding and helminthiasis through anemia or possibly intestinal obstruction and associated complications – we cannot confirm that these are the commonest causes of death. As students have not had Obstetrics and Gynecology or Pathology before "Learning by Living" experience, they cannot interpret correctly the medical information they are told in vernacular language by the community members.

A group of students sent to Malembo area, on the western shore of Lake Malawi, took praziquantel for prophylaxis for schistosomiasis (bilharziasis), which is prevalent in many areas of Malawi. While praziquantel is the standard treatment for bilharziasis in Malawi (9), it is not used for prophylaxis. However, the students did not know that.

Students also participate as teachers in the communities, although this is not the purpose of the program. One student reported: *The people did not know how to use Waterguard®. Now they do, thanks to me, because I told them how to use it.*

The villagers possibly expect answers from medical students to their questions regarding health issues. Community members may ask the students specific questions, which the students may or may not be able to answer. It is rather difficult for our students to acknowledge ignorance on a topic, so they are tempted to comment. This may be potentially harmful to the community if the advice from the students may not be correct.

### Timing of Learning by Living Program

When "Learning by Living" program would best meet the learning objectives of the students has been hotly debated at the College. If it is included early in the curriculum, ie, in the first two years, it can help students to perceive health issues through a "community lens" and obtain more realistic picture of the health problems in the country. However, at that time, they do not have as much knowledge on epidemiology, pathology, and clinical subjects to be able to interpret correctly their observations. On the other hand, if "Learning by Living" program is introduced later in the clinical years, the opportunity to influence the students' thinking early enough in their formative years may be missed. There are also other advantages and disadvantages of the early or late timing of "Learning by Living" program (Table 1).

Students give medical advice to their host communities. A student reported: *We some-*

*how feel helpless to help. If we had at least some drugs like panadol or Fansidar®, we could use them.*

The need to attend to medical problems beyond one's competence has been described before. Muula et al (10), in their study of community health volunteers in Nyassa Province, Mozambique, noted that the volunteers expressed desire to stock a wide range of medicines because they felt rather inadequate when they could not manage patients themselves but had to refer them to hospital. Perhaps the issue may be different with *Fansidar* and paracetamol, as these are over-the-counter medications for the management of malaria, which every household in Malawi is encouraged to stock and use for self-medication (11). Students did ask for medicines they could use in the communities. However, from the de-briefing sessions, it seems that doing so could potentially harm the community. One student reported: *If the children urinate in the wells, the virus that causes bilharzias could spread.*

Bilharziasis or schistosomiasis is a disease caused by a parasite, not a virus, as one of our students had suggested. Such mistakes indicate that the students could be making many other factual errors within the community.

### Lessons Learnt

In the "Learning by Living" approach, students are left alone with the rural families, and no member of the teaching faculty is available to them. There are potential benefits and challenges that such an arrangement poses. Firstly, in the absence of faculty members, students are unable to immediately gain useful guidance from a teaching staff that may highlight some issues within the community. On the other hand, there is no interference from faculty that may impede student's life in as natural an environment as possible.

"Learning by Living" may expose students to harm, some of which may be anticipated and prevented. As one student reported: *The other night I had to go to a pub and ask a sex worker to consent to an interview. I gave her 200 Kwacha as this is the amount she charges for a sexual encounter.*

The instruction that students should participate as much as they can in the village life can be misunderstood. One student reported: *People are using the river as a toilet. I also went to the river*

**Table 1.** Advantages and disadvantages of "Learning-by-Living" program at pre-clinical years of medical studies at Malawi University College of Medicine

#### Advantages:

1. Students have exposure early enough in their formative training to influence forthcoming training
2. Students are not as pressured to provide treatment to medical conditions
3. Possibility of contributing to improvement of health in the rural communities

#### Disadvantages:

1. Students do not have as much clinical and public health knowledge to enable them make reasonable deduction of what they experience in the community
2. Students not able to advise communities and households in "healthful" living or their advice to communities may be faulty
3. Possibility of feeling of exploitation as the community does not get much in return

and did what other people were doing. It was indeed participatory.

### Ethical Considerations

The households for students in the "Learning by Living" program are selected by the health surveillance assistant (a community health worker). There have been concerns that obtaining adequate informed consent, which comprises understanding, choice, and competence to do so, from the household head may not be possible. Consent is verbal and no effort is made to explain to the families that they are free to change their mind at any point of student's stay. Of course, logistically, we would not want that to happen, but the autonomy of the family to make choices is hindered by our desire to have a student staying with them at all costs.

### Conclusions

"Learning by Living" approach of the Malawi College of Medicine is a useful tool in the training of undergraduate medical students that exposes them to rural life. It is important, because majority of Malawian population lives in rural areas. There is need to evaluate the perceptions of students and how the learning goals may be achieved, as well as to obtain community perception about the program. Although "Learning by Living" approach attempts to place students in natural environment, as rural areas are expected to be, it seems that students cannot observe the "reality" of the life in Malawi villages because the behavior of community changes in the presence of visitors.

### Conflict of Interest

Dr Adamson S. Muula is lecturer in Community and Public Health, University of Malawi, College of Medi-

cine. He has participated in the Learning by Living program since 2001.

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