Interim Report of the Allied Healthcare Paediatric Diabetes Educator Course for Africa (ADECA) program to date

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Introduction: There are approximately 60,000 children with childhood diabetes living in sub-Saharan Africa. The clinical outcome for many is poor as the rates of complications are high. Many children depend on donor insulin and test strips. Food insecurity remains a challenge. Care requires a well-trained multidisciplinary team to support children and families to improve clinical outcomes. It requires education that is targeted, opportunistic, culturally, linguistically and age-appropriate, and repeated. Whilst there are programs for training Paediatric Endocrinologists (PETCA/PETCWA), none exists for training nurses, dieticians etc. The ADECA program was designed to fill this void and contribute to changing the narrative of poor care. The ADECA course is a 1-year hybrid course consisting of 3 months E-learning module, 2 weeks in person intensive practical course in Tanzania, 8 months’ work-based assessment in their home country and project and a final in person assessment back in Tanzania. The curriculum was co-produced by members of ISPAD and ASPAE (African Society for Paediatric and Adolescent Endocrinology) (African Society of Paediatric and Adolescent Endocrinology) (African Society for Paediatric and Adolescent Diabetes). Each module is formally evaluated. The course is accredited by Tanzanian Nursing Association for CPD (Continuing Professional Development) points.

Following announcement of the course on the ASPAE WhatsApp group for 1 week, we received 630 applicants. 330 nurses and 300 dietitians. A decision was made to focus on nurses for the pilot. Each applicant submitted a personal statement, a letter of support from Employer confirming that the nurse will be allowed to work in Paediatric diabetes specialty for at least 3 years and a local mentor who ran either a children’s or adolescent diabetes clinic to support their learning. 144 nurses were shortlisted (42% from Nigeria, 27% Kenyan, 8% each from Ghana and Cameroon, 7% from Tanzania, 6% from Malawi and 1% each from Uganda and Malawi. (See fig 1). From the shortlisted, 15 nurses were chosen (4 Tanzanian, 4 Nigerian, 3 Kenyan, 1 Ghanaian, 1 Ugandan, 1 Cameroonian, 1 Malawian) for the pilot. Each nurse was assigned to an international mentor to support their learning.

Phase 1 (Online E-Learning module): The course which started 1st of June 2022 was hosted on 360Learning platform which is a ‘Learning Management System’ that allows for collaborative engagement between faculty and the learners. It also allows faculty to track progress of the learners. Prior to the start of the course, the nurses and their local mentors attended an online seminar to ensure they understood course outline, requirements, and assessments. The nurses then completed a Pre course MCQ test. The 12-week course consisted of 19 (30 minutes) pre-recorded videos, 7 case scenarios with questions covering a wide range of topics. The aim was to equip the nurses with basic
theoretical knowledge of paediatric diabetes. Time spent on the platform was prospectively monitored and nurses were reminded that they needed to view all the lectures. Although unstable internet connections were a constant complaint, 13/15 nurses spent the required minimum of 9 hours on the platform. Analysis shows that the nurses spent a median of 12 hours on the platform with one nurse spending 66 hours on the platform.

In addition to the Pre-recorded videos, the faculty held additional 13-7 webinars on the Zoom platform. These were Q&A sessions to clarify the lectures. These webinars were also supported by some ‘visiting’ faculty. The international mentors held additional small group sessions to support the nurses learning.

During this phase of the course, the nurses were expected to attend clinics in their local centre, ‘adopt’ a family with diabetes to understand their journey and challenges with living with Type 1 diabetes. The nurses were expected to prepare a 10-minute case presentation which they will present during the 2nd phase of the course to their peers and faculty. The phase 1 was evaluated by the nurses undertaking Pre-course and post course MCQ test. They also produced video recordings describing their views and opinions about the online course. All the nurses have now achieved the required 80% pass mark.

Phase 2: In person Practical Course in Dar es Salaam Tanzania (5th September to 15th September 2022).

The opening ceremony was attended by different local dignitaries including the Regional Chief Medical Officer, the Acting Director of Nursing, Representatives from Tanzania Diabetes Association, Tanzania Paediatric Associations and Tanzania Diabetes Youth Association. It was also featured in the local press (see figure 2). The Nigerian Ambassador to Tanzania also visited in the 2nd week of the course to encourage the Nigerian delegates.

This was an ‘immersive course.’ The nurses were expected to ‘live’ as if they had type 1 diabetes on different regimens. This helped them to learn ‘how to count carbohydrates in food,’ initiate insulin in a newly diagnosed child and calculate dose of insulin prior to a meal, use of correction doses and adjustment of insulin doses. They attended and observed clinic consultations at Muhimbili National Hospital, participated in role play sessions (to improve their communication and teaching skills), took part in practical sessions on various aspects of diabetes care, Q&A sessions with children and young people with diabetes and their families. Had lectures and workshops. A highlight was visiting a local market to learn about making healthy choices and carbohydrate counting of locally available foodstuff. All the nurses successfully presented a 10-minute case presentation to faculty and peers. It was not all work as there was also an active social program as the nurses participated in talent shows, fashion shows, quizzes etc. To successfully complete this phase, all nurses were individually formally evaluated in 4 areas

1. Ability to ‘count carbohydrates’ in food
2. Ability to accurately calculate and initiate insulin either multiple daily injection regimen (including correction doses and basal insulin and insulin: carbohydrate ratio) or twice daily regimen using Regular insulin and NPH
3. Ability to teach ‘Sick day Rules’ including advising on use of ketone test strips to
4. Ability to teach aspects of hypoglycaemia management and prevention
The nurses completed a feedback form and the course scored well. See attached. The participants are now back to their home countries on the next phase of the course which will be based on work-based assessment.

Appendix

Fig1

COUNTRY OF ORIGIN OF SHORTLISTED NURSES

- Nigeria: 42%
- Kenya: 27%
- Ghana: 8%
- Tanzania: 7%
- Cameroon: 8%
- Malawi: 6%
- Somalia: 1%
- Uganda: 1%
- Cameroon: 8%
- Malawi: 6%
- Somalia: 1%
- Uganda: 1%
- Nigeria: 42%
- Ghana: 8%
- Tanzania: 7%
- Cameroon: 8%
- Malawi: 6%
- Somalia: 1%
- Uganda: 1%
ADECA Participants and Faculty at Muhimbili National Hospital Dar es Salaam Tanzania

ADECA Participants & Faculty with local dignitaries at opening ceremony
ADECA participants & Faculty in a local market learning about healthy eating and carbohydrate counting
2nd PHASE PRACTICAL TRAINING
ALLIED HEALTHCARE PAEDIATRIC DIABETES EDUCATOR COURSE FOR AFRICA (ADECA)

5th - 17th SEPTEMBER 2022
GIRAFFE HOTEL, DAR ES SALAAM, TANZANIA