



2019

PHARMALINK

DIABETES MANAGEMENT & CARE





Ecumenical Pharmaceutical Network (EPN) is an independent, not-for-profit; Christian organization whose mission is to support churches and church health systems provide and promote just and compassionate quality pharmaceutical services for all. The work of EPN is not just aimed at having quality pharmaceutical services provided by church institutions, but also at working towards services that allow non-discrimination and guarantee equal access to all.



About the cover image

This image illustrates the variables to keep in mind to manage Diabetes i.e. food, exercise, stress management, and general health. Maintaining the blood sugar levels in the desired range is a constant balancing act.

Disclaimer

Opinion expressed in this edition of Pharmalink are those of the authors and do not necessarily reflect the views of Ecumenical Pharmaceutical Network (EPN).

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C O N T E N T S

About us	2
Editorial	4
Improvement of Type 2 Diabetes Care in Zimbabwe:	5
Baseline Survey Report	5
Baseline survey findings	6
Inspiring Momentum in Management of Diabetes	12
Online Course on Diabetes	21
The fight to survive and touching people's lives;	23
Yemurai shares her story living with Diabetes	23
Chipimo shares his story living with Type 1 Diabetes	25
Messages on Diabetes Self- Management	26



EDITORIAL



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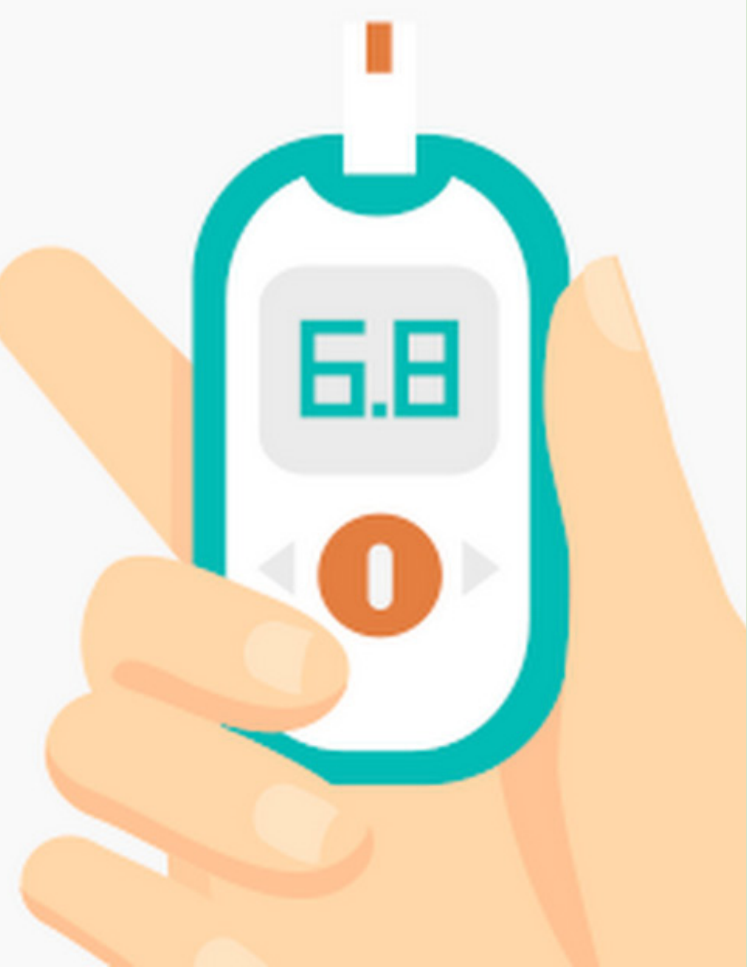
Non-communicable diseases (NCDs) such as diabetes are on the rise in low and middle income countries (LMICs). Diabetes is a chronic, metabolic disease characterized by elevated levels of blood glucose (or blood sugar), which leads over time to serious damage to many organs such as the heart, blood vessels, eyes, kidneys, and nerves. The most common is type 2 diabetes, usually occurs in adults, when the body becomes resistant to insulin or doesn't make enough insulin. In the past three decades the prevalence of type 2 diabetes has risen dramatically in countries of all income levels. Type 1 diabetes, once known as juvenile diabetes or insulin-dependent diabetes, is the other type in which the pancreas produces little or no insulin by itself according to WHO (2019). For people living with diabetes, access to affordable treatment, especially insulin, is critical to their survival. There is a globally agreed target to halt the rise in diabetes and obesity by 2025 but unfortunately access to anti-diabetes drugs remains a challenge. Life-saving medical products such as insulin remain unaffordable for the large populations in many countries in Africa and Asia. Combinations of NCDs such as cancer, cardiovascular diseases and diabetes make many people fail to achieve and enjoy the highest levels of health. Availability of medicines needed to treat these conditions beyond the access programs is a challenge. The high cost of cancer medicines and limited access as well as a lack of human resource capacities to handle some of these drugs compounds the problem, even in faith-based organizations (FBOs) that compliment government owned health services in many LMICs. The WHO and CDC report that NCDs are by far the leading causes of death in the world, representing 63% of all annual deaths. NCDs kill more than 36 million people each year. Up to 80% of all NCD deaths occur in LMICs. And yet NCDs can be prevented through effective interventions that tackle known shared risk factors such as tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol and ensuring sustainable adequate access to medicines.

In this edition of Pharmalink, we share some of the stories, challenges and lessons learned on Diabetes Management & Care from the players in the medical/health fields as well as Advocacy Champions. Some of the issues are country specific, but many cut across almost all low-income countries. FBOs have a challenge to work at different fronts, advocacy towards church leadership, health institutional leadership, governments, pharmaceutical industry, global initiatives and institutions set up to address NCDs to building capacity for effective management of NCDs. Investing in access and strong supply chain systems is critical in addition to provision of patient centered pharmaceutical care. I hope and trust that you will find this edition very useful as you address NCDs and as you work to prevent and provide better care for NCD patients.

Inquiries or comments about this edition of Pharmalink should be directed to: communications@epnetwork.org. The editor also welcomes author's initiatives for future editions.

Mirfin

Mirfin M Mpundu





DIABETES TYPE 2

Improvement of Type 2 Diabetes Care in Zimbabwe: Baseline Survey Report

Introduction

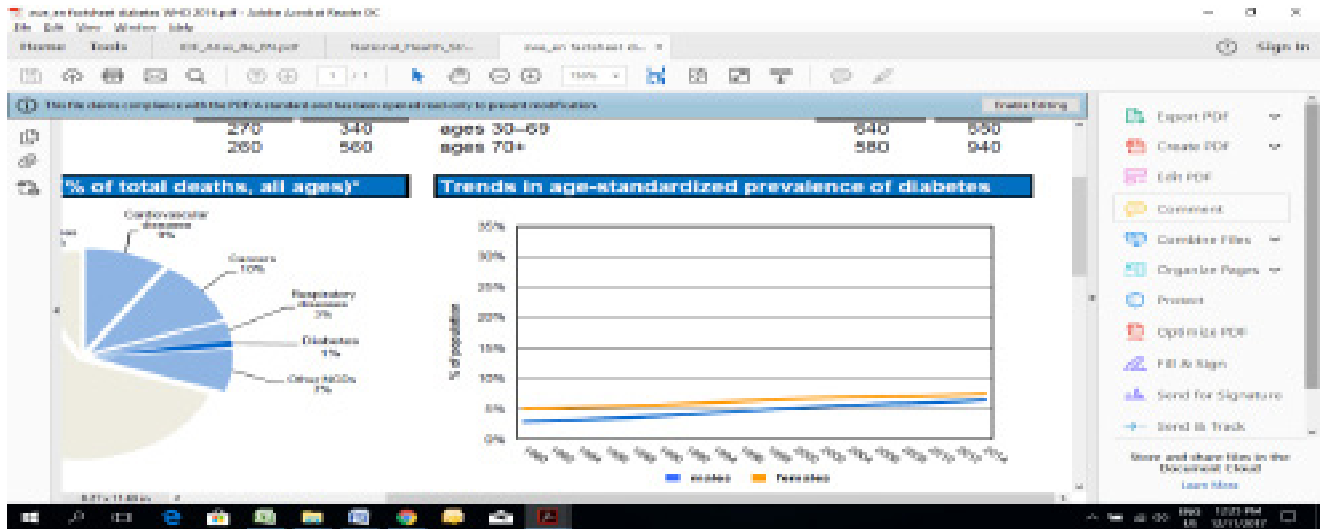
In Zimbabwe, previous strategies have disproportionately paid less attention to communicable diseases in terms of funding and implementation and as such neglecting most, if not all of the non-communicable diseases¹. However, the burden of Non Communicable Diseases (NCDs) has increased substantially over the years as reported in a study² conducted by the school of public health and preventiv medicine, Monash University, Melbourne, Australia in collaboration with the Zimbabwe Diabetes Association (ZDA), Harare. The overall pooled prevalence of diabetes before 1980 was 0.44% (95% CI 0.0–1.9%), after 1980 the pooled prevalence had risen to 5.7% (95% CI 3.3–8.6%). This poses serious challenges to the provision of care and prevention of disabling co-morbidities in an already disadvantaged healthcare setting. Strategies¹ are required to deal with the increased prevalence and management of those already diagnosed with diabetes. There are also no existing national multi-sectoral NCDs prevention and control strategies or screening guidelines, including those that target tobacco or alcohol use. This reflects the extent of neglect of these diseases over the last decade or so. According¹ to the 2005 study, the prevalence rate of diabetes in Zimbabwe was 10% and World Health Organization (WHO) estimates that 1% of total deaths in Zimbabwe are due to diabetes.

In 2014, the number of new cases and follow-ups seen as outpatients aged above 25 years was 8,658 and 102,077 respectively in a total population of 16 million^{3,4}. A total of 4,679 cases were seen as inpatients and accounted for 24,633 patient days. (Ministry of Health and Child Care (MOHCC) 2014).



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Figure 1: Prevalence of diabetes



Goal

To understand current pharmacy staffing levels, medicines availability, availability of Standard Operations Procedures (SOPs), functionality of medicines therapeutic committees, storage facilities and availability of reference materials. The implementing partners for the project are the Zimbabwe Association of Church related Hospitals (ZACH) and the Zimbabwe Diabetes Association (ZDA).

Data collection: The baseline assessment started in the last quarter of 2018. Following the training of data collectors by Ecumenical Pharmaceutical Network (EPN) and Zimbabwe Association of Church Related Hospitals (ZACH) on the 26th of November 2018 at ZACH offices in Harare, Zimbabwe; the data collection for the baseline happened between the 9th to the 18th of December 2018 using the Open Data Kit (ODK) software. The three data collectors were nurses from mission hospitals under the ZACH umbrella. A total of 20 mission hospitals participated in the study.

Baseline survey findings

a. Trained pharmacy staff

The baseline revealed that there was a critical shortage of formally trained staff in the health facilities. 16 out of the 20 facilities in the sample (80%) did not have a single formally trained pharmaceutical staff as shown in Figure 2 below. There is a dire shortage of pharmaceutical staff in Zimbabwe. None of the twenty facilities in the sample had a pharmacist including the higher level hospitals. Only 4 (20%) had pharmaceutical technologists. The pharmacy duties were handled by the nurses who constituted the greatest percentage of staff. Nurses constituted 54% (268 out of the total of 499) of the total staff in the 20 facilities targeted for the baseline sample. Classified Daily Employees (CDEs) constituted 24% of the total staff. None of the staff in 19 facilities attended any diabetes training in the past year, only one facility; Zhombe Mission clinic; had diabetes on-site training.

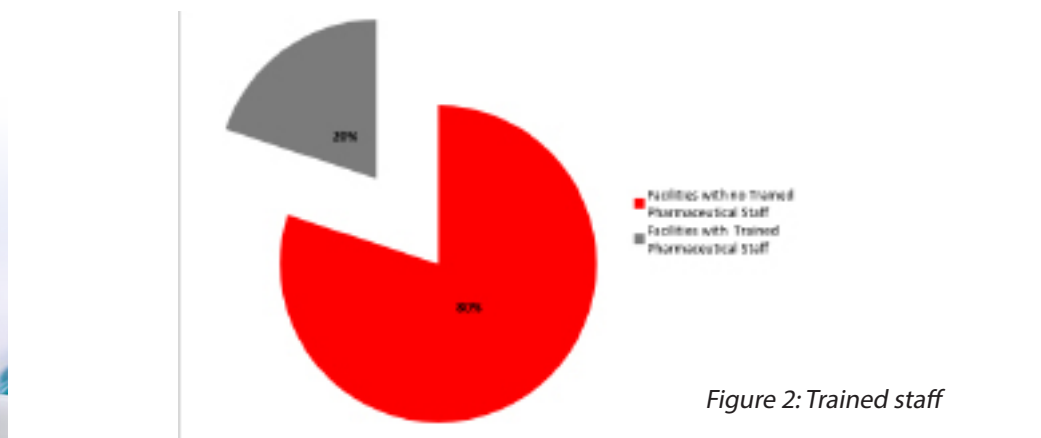
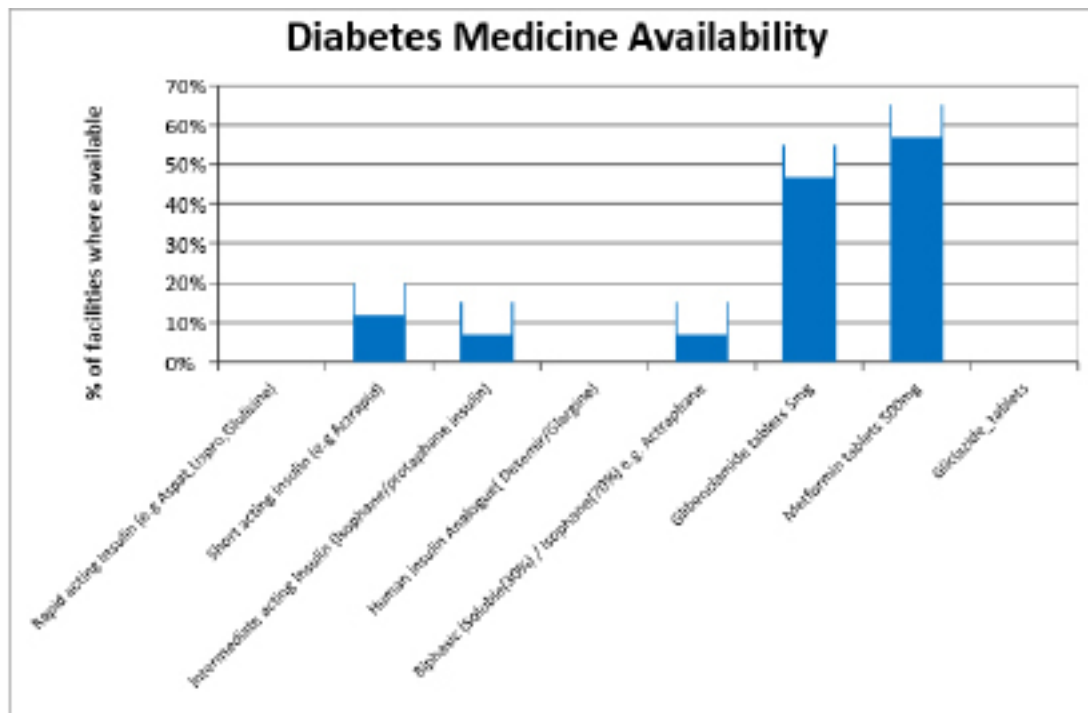


Figure 2: Trained staff

b. Medicines Availability

The percentage availability of all diabetes medicines on the current Zimbabwe essential medicines list was 34%. The major reasons given for the stock-outs were lack of financial resources and NATPHARM not supplying the health facilities. Figure 6 above shows availability of the medicines on the latest edition of the Zimbabwe essential medicines list for all the 20 health facilities in the target sample. Glibenclamide was available at 11 (55%) of the facilities whilst metformin was available at 13 (65%) of the facilities in the sample. The study findings showed that the health facilities stocked metformin in the 500mg strength and did not stock the 1000mg/1g strength. For glibenclamide; they stock 5mg and not the 10mg strength.

Figure 3: Medicines availability

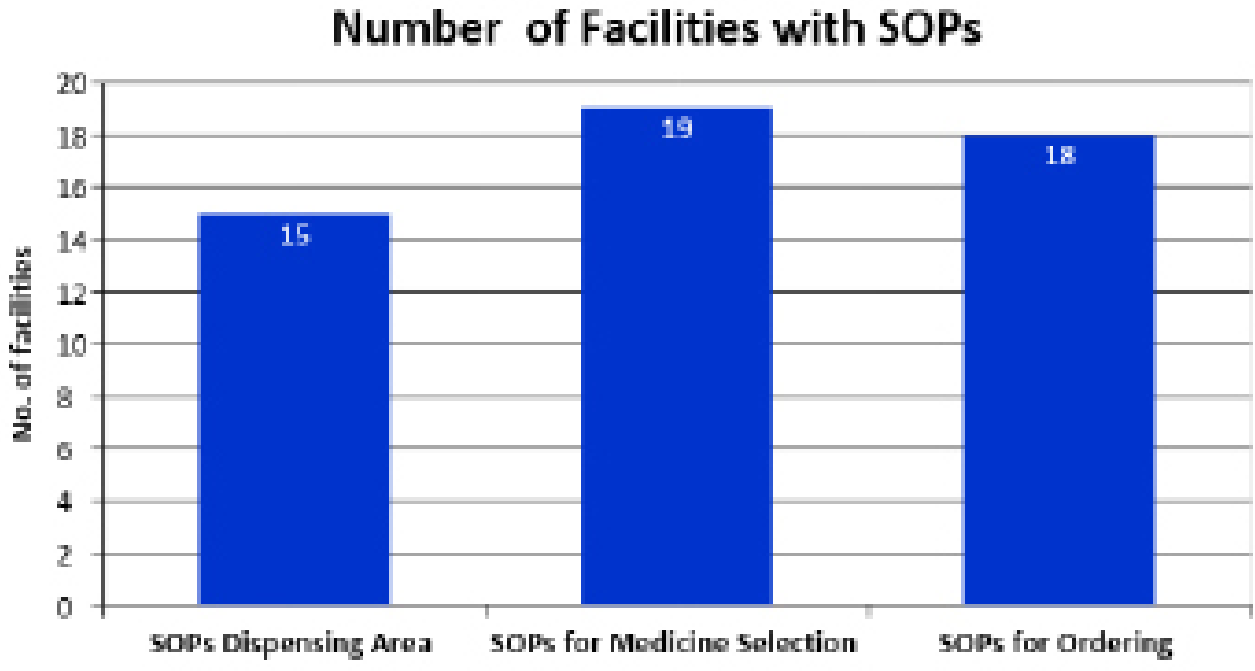


c. Availability of SOPs

Standard Operating Procedures (SOPs) for receiving and issuing stock were available in 18 (90%) of the facilities. SOPs for destroying obsolete stock were available in 7 of the 20 facilities (35%). Two of the health facilities did not have any SOPs at all available in the store. SOPs for the dispensing area were available at 15 (75%) of the 20 facilities in the baseline sample and SOPs for medicine selection were available at 19 (95%) of the facilities. Findings revealed that counting trays were used in all the facilities during dispensing and 18 (90%) of them wiped them after use.



Figure 3: Availability of SOPs



d. Medicines & Therapeutics Committees

Half of the facilities; 10 (50%) did not have Medicines & Therapeutics Committees (MTCs) in place. Three of the facilities that did not have MTCs: Sanyati Mission Hospital, Triashill Mission Hospital and St. Rupert’s Maya Mission Hospital are higher level hospitals and it is vital that MTCs be in place and meet regularly to augment efforts in medicine access and rational use in the health facilities. This is one area that the training of the staff will focus on. The facilities with MTCs had their meetings regularly and findings showed that they had last met in the last quarter of 2018 (October to December 2018).

e. Store Cleanliness

The cleanliness of the store was also assessed as part of the baseline assessment. This is important as it has a bearing on the storage, safety and arrangement of medicines. Figure 4 below shows the scores for the facilities with 5 being the highest score. 14 (70% of facilities) scored a 4 showing that most were generally neat.

Figure 4: Storage space cleanliness



FIGURE 4: SCORES FOR STORE CLEANLINESS

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f. Availability of Reference Material

All the 20 facilities had consumption records in hard copy format. The graph above shows availability of reference material. The national essential medicine list was available at 18 (90%) of the facilities. Standard Treatment Guidelines (STGs) were available in 12 (60%) of the facilities. The other reference material had low availability as reflected on the graph below - Figure 8. Only 5 out of the 20 facilities had some diabetes IEC materials. The rest did not have. Records were kept for ordering for all facilities. All facilities used the consumption method for quantification of medicine needs.

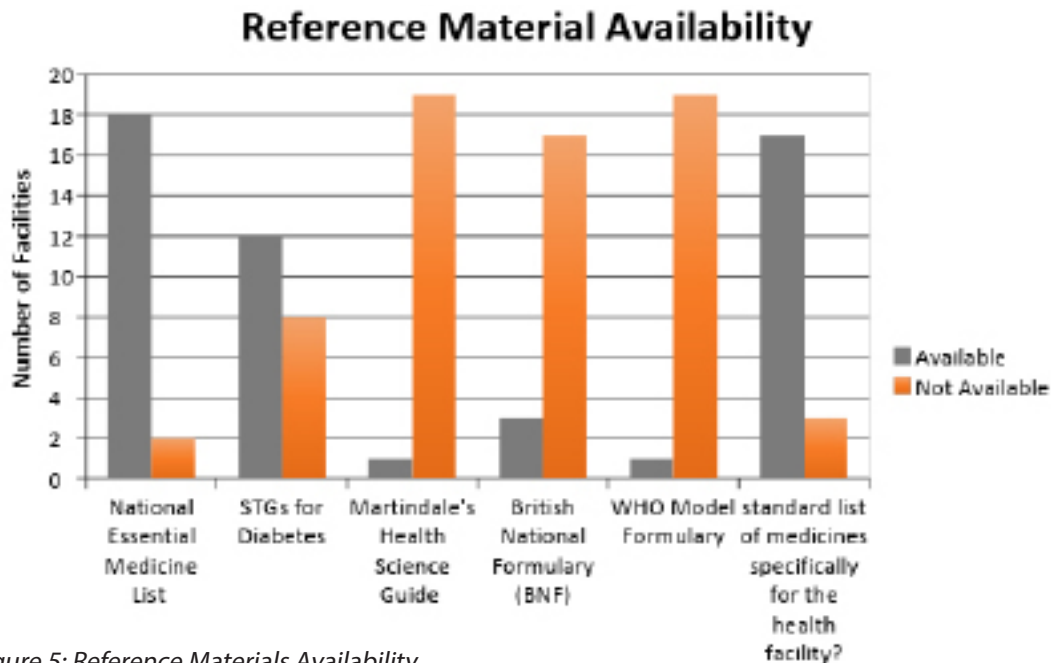


Figure 5: Reference Materials Availability

Conclusion and Recommendations

The Baseline Survey results provide useful knowledge on the current availability of diabetes Type 2 medicines, stock management and dispensing practices in the targeted health facilities. The baseline provides data for monitoring the effects of any future interventions. The baseline findings can also be used to inform the training content and areas that require emphasis during training and also inform the agenda of the stakeholders meeting. This is an opportunity to advocate for improved diabetes care in Zimbabwe especially regarding access of medicines.

In summary the recommendations based on the baseline findings are that training of health workers on Diabetes mellitus as well as adequate supply of the diabetic medicines and provision of IEC materials in most of the health centers is vital. The intervention that seeks to build the capacity of health workers, advocate to key stakeholders including policy makers in Zimbabwe and also increase awareness through IEC materials will assist in addressing the gaps that are summarized in this report.

References

1. National Health Strategy for Zimbabwe. (2016-2020). Retrieved October 21, 2018, from https://www.unicef.org/zimbabwe/National_Health_Strategy_for_Zimbabwe_2016-2020_FINAL.pdf
2. edition <https://www.ncbi.nlm.nih.gov/pubmed/22079683>
3. Mutsa, G., Mangwiro, J., Andre, R., et al. (2015). Prevalence of diabetes in Zimbabwe: a systematic review with meta-analysis. *International Journal of Public Health*, 60.1-11.10.1007/s00038-014-0626-y, from https://www.researchgate.net/publication/268982831_Prevalence_of_diabetes_in_Zimbabwe_a_systematic_review_with_meta-analysis
4. Mufunda, J., Chatora, R., Ndambakuwa, Y., Nyarango, P., Chifamba, J., Kosia, A., Sparks, H.V. (2006). Prevalence of non-communicable diseases in Zimbabwe: results from analysis of data from the National Central Registry and Urban Survey 2. *Ethnicity & disease*. 16. 718-22 from <https://www.ncbi.nlm.nih.gov/pubmed/16937610>



Inspiring Momentum in Management of Diabetes Patients in Presbyterian Church in Cameroon Health Institutions

Discussions at the June 2018 midyear board meeting of the Presbyterian Church in Cameroon (PCC) Health Services Department centred on exploring collaboration and partnerships. These were intended to energize the scaling up of interventions that would safeguard systems and mechanisms that will leverage the service delivery standards and foster efficiency in management of diabetes in PCC Health Institutions.

“We are committed, excited and optimistic that the current platform in our health units geared at enhancing the fight against Non-Communicable Diseases (NCD) triggered by the collaboration between the PCC and the Ecumenical Pharmaceutical Network (EPN) Project is a potent catalyst in this regard”, Dr Oben Standly (MD), PCC Focal Point for Diabetes and Hypertension.

The Physician explained to delegates at the board meeting that “conscious efforts must be made by the PCC to eliminate existing barriers and circumvent the bottlenecks that are a stranglehold and restraining progress in the optimization, proper care and management of diabetes in our health institutions”.

The PCC Lead Diabetes and Management Physician analyzed inhibiting factors such as the absence of a Diabetologist in the entire health system, limited space in health facilities to conveniently conduct diabetes clinics, absence of Information Education and Communication (IEC) material for education of clients/patient, lack of financial resources and means for community outreach activities, acute shortage of qualified personnel assigned to NCD programs in general and diabetes projects in particular, weak data management and information systems and the intermittent



Atoh Derek Suh
Health Services Secretary,
PCC

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out-of-stock of essential medicines for patients.

Dr. Oben revealed that his mission to the board meeting was to advocate to policy makers to render more credible budgetary allocations and explore partnership opportunities for the implementation of a broad based diabetes and management program across the entire PCC health institutions (hospitals and health centres). So far, only three PCC sites run well-structured and functional diabetes programs against the background of insufficient trained providers and limited essential tools and equipment.

The Presbyterian Integrated Health Centre (PHC), Limbe located in the South West Region of Anglophone Cameroon where Dr. Oben Standly works, continue to see growing number of clients registered in the facilities' monthly diabetes clinic. Similarly, another delegate at the board meeting, the PCC Eye Services Medical Director, Dr. Ngounou Faustin elaborated on the rising trend of eye patients presenting with conditions of diabetes. Such patients would be required to undergo screening test for Diabetes Retinopathy and other related eye complications including glaucoma.



Diabetes Clients in PHCLimbe undergoing Eye Screening Test for Diabetes Retinopathy On World Glaucoma Week 10th to 16th March, 2019

The Board Chairman, Moderator and Chief Executive Officer (CEO) of the PCC charged the PCC Health Services Secretary to focus energy on the promotion of the fight against NCDs with keen attention on diabetes. Among key resolutions arrived at the board meeting was the eminent program for the PCC to implement a hospital based project on Diabetes Retinopathy by May 2019. The Church has already signed a Memorandum of Understanding (MOU) with the International Diabetes Federation (IDF) AISBL for this to happen. This will be a nationwide project. According to the terms of the agreement, the IDF will provide a fundoscope machine manufactured by Chinese Company. This device (camera) will be used to step up early detection of diabetes retinopathy and early intervention critical in preventing loss of vision for people with diabetes. A second project that will span from 2020 to 2022 is the offshoot of a partnership between the PCC Health Services and the Christofell Blind Mission (CBM) Germany. The goal of this initiative is to prevent blindness by improving the care and management of eye injuries, glaucoma and diabetes retinopathy in Cameroon. The trickle down benefits of these two schemes will ultimately optimize and effect the adequate management and care of diabetes in Cameroon.

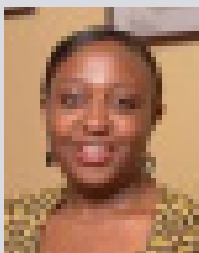




The Ecumenical Pharmaceutical Network (EPN) implements a project titled “Improvement of pharmaceutical care for Type 2 Diabetes in Zambia” with the generous support from the World Diabetes Foundation.

Background

According to the International Diabetes Federation (IDF), the number of adults living with diabetes was estimated to be 425 million globally in 2017 and is projected to be 629 million in 2045 with most living in low and middle income countries.¹ Diabetes is increasingly becoming a global health threat and its prevalence in Zambia is fast escalating. In 2017, the International Diabetes Federation (IDF) estimated that there were 227,858 adult cases of diabetes up from the 2015 figure of 212,200 cases in Zambia.² Despite the government’s current support, logistical and financial challenges for access to medicines and implementation of many interventions for non-communicable diseases remains a challenge. The health systems in both the government and faith-based sectors are equally challenged and far stretched to deal with both the burden of non-communicable diseases and communicable diseases. Unavailability of diabetes medicines, diagnostics and test materials limits the access to care in Zambia as is the case with most Sub-Saharan African countries. It is against this background that EPN with the generous support of the World Diabetes Foundation (WDF) undertook a project in 2016–2018 with an overall goal to improve the quality of Type 2 Diabetes Care through increased availability of quality-assured diabetic medicines and improved dispensing practices in Zambia. Implementation was done in partnership with The Churches Health Association of Zambia (CHAZ) and the Diabetes Association of Zambia (DAZ).



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Diabetes is considered as a demanding chronic condition psychologically as it generally requires both adherence to medication in cases where they are prescribed and lifestyle changes. Diabetes requires the frequent self-monitoring of blood glucose levels, dietary modifications, exercise and proper administration of the prescribed medication. Pharmaceutical staff can serve as a resource to other health care providers to augment efforts in assuring safe,

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appropriate, cost-effective medication use and patient counselling. Traditionally pharmacists were viewed as individuals who solely dispensed medicine to patients. Pharmaceutical staff are now increasingly becoming indispensable in monitoring patient medication therapy. Pharmaceutical staff can educate the patients about the

proper use of medication, explain monitoring devices, and make recommendations for supplementary products, services and lifestyle changes. It is therefore crucial that the capacity of pharmaceutical staff is built so that their role is expanded in order to realize optimal patient health outcomes for conditions such as diabetes. Pharmaceutical staff are highly accessible to the patient, yet their role is often underutilized. Implementing lifestyle changes when faced with diabetes is imperative. Taking medications for diabetes need to be complemented by good lifestyle habits such as lessening the risk factors associated with diabetes such as unhealthy diet, physical inactivity, tobacco use and the harmful use of alcohol. Scientific evidence shows that a healthy lifestyle is effective for not only preventing chronic illness but treating them too. The pharmaceutical staff can maximize the patient encounter opportunity. During their contact, the patients can ask the pharmaceutical staff further questions they did not ask the physicians and can get further information. The staff can therefore play a critical role to help diabetic patients in the best possible way to cope with the disease.

Pharmaceutical staff's fundamental role in medicine stock management and quality dispensing greatly influences the availability, quality and right use of medicines. Unfortunately a great percentage of staff in pharmacies of faith based health facilities are not trained as pharmacists. A study conducted by EPN (2008-2010) showed that in many African countries there were few pharmacy technicians and pharmacists in the Church Health Sector. The baseline assessment at the start of this project revealed that of the facilities in the target sample, 40% (6 out of the 15) did not have any formally trained pharmaceutical staff. There is also lack of continuous professional development in the institutions as the baseline findings revealed that none of the health facilities had any diabetes or pharmaceutical training in the preceding year. The staff without formal training struggle with store management, stock keeping and dispensing of medicines. Pharmaceutical staff are highly accessible to the patient and can serve as a resource to other health care providers to assure safe, appropriate, cost-effective medication use and patient counselling. Past interventions conducted by EPN have shown that 3-day training with supervisory follow up has positive outcomes on the availability and quality of dispensing of medicines, stock management and store keeping in general.

Method

The main objectives of the project were to increase the capacity and skills of pharmaceutical staff in inventory management and quality dispensing of Type 2 diabetes medicines in the targeted health facilities in Zambia.

The intervention started with a baseline study to provide an information base on diabetes medicines availability, dispensing practices and pharmacy stock management against which to monitor and assess the intervention effectiveness. The baseline survey was conducted in 15 health facilities using both quantitative and qualitative methods. The Open Data Kit (ODK) software was used for data collection. After the baseline survey, diabetes Information, Education and Communication (IEC) materials were





developed. There was training of pharmaceutical staff using a training of trainers approach with a training curriculum that was tailored to address gaps from the baseline assessment. A total of 38 (15 female and 23 male) pharmaceutical staff from 37 health facilities in 7 provinces in Zambia were retrained in a 3-day training. This was preceded by a training of trainers where EPN trained 3 pharmacists from CHAZ who in turn conducted the training for the 38 staff. The participants were retrained in the following broad topics: Type 2 diabetes management and treatment; non-pharmacological treatment of diabetes; stock management including inventory control, storage, medicine selection, quantification, ordering and receiving; standard operating procedures; rational use of medicines and dispensing practice. The training was interactive and was conducted in the form of lectures, group work and discussions. The trainees found the training valuable and recommended that it would help greatly if more facilities participated. There was an improvement of 13% in the average pre- and post-test scores before and after training. Regarding the knowledge, attitude and practices on diabetes test scores before and after the training; 100% of the respondents improved their score and on average the increase was 11% from 74% to 85%. Action plans were developed after the training. On-site supervisory visits were then conducted for all trainees to offer post-training support. The project concluded with an end-line assessment to assess project outcomes.

Part of the research directly involved human subjects, ethical approval was sought from and granted by the University of Zambia Biomedical Research Ethics Committee (UNZABREC). Blood samples for baseline were collected from a sample of 21 patients from two health facilities with an objective of tracking whether there were any changes noted in the blood glucose test results at baseline and endline. The blood glucose test used was the haemoglobin A1c (HbA1c) test which shows how

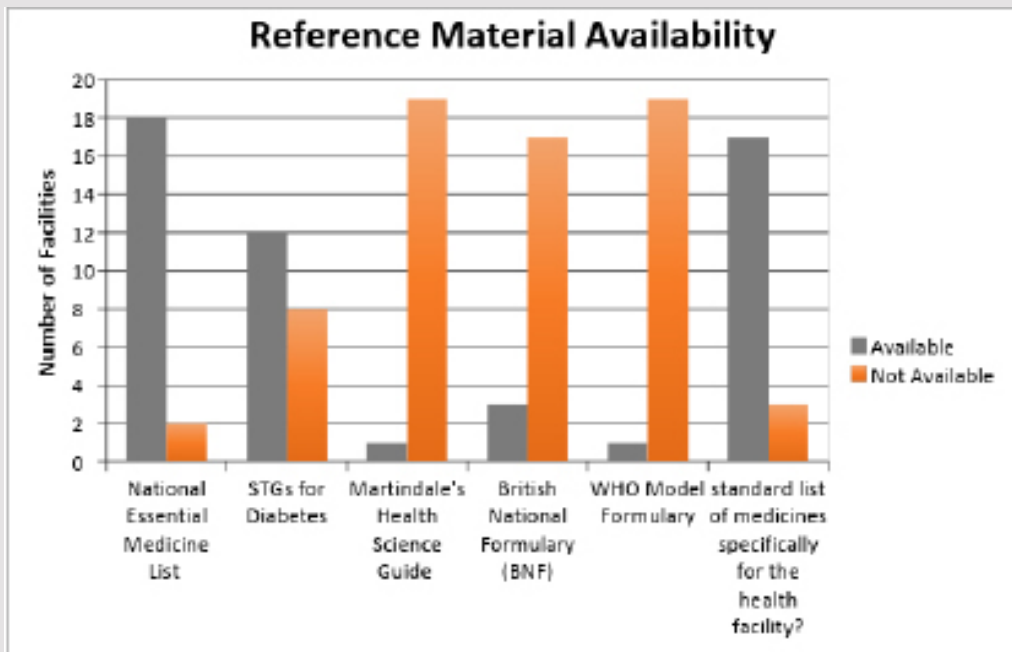


Figure 1: Diabetes Medicine Availability

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well controlled diabetes has been for the precedent 2-3 months. The targeted patients were confirmed Type 2 diabetic out-patients aged 21 years and above. The patients willing to participate in the study were asked to give informed and written consent by signing consent forms.

The sample size of patients was chosen against a background that there is a single laboratory that can perform the HbA1c test in Zambia and it is based in Lusaka. This therefore meant that blood samples had to be transported from the health facilities located in various provinces to Lusaka posing logistical challenges.

Discussion

The baseline assessment showed an average availability of 43.5% for the diabetes medicines on the Zambia Essential Medicines List. Even in instances where medicines are available, but patients are not well instructed, there is a high risk that they will not adhere to their medications increasing the likelihood of complications and failed treatments. Non-adherence can lead to long term complications in diabetes such as eye and kidney damage.

Findings revealed that Zambia has an immense challenge of diabetes medicine availability. Although some of the facilities are lower level facilities that are not permitted to stock some diabetes medicines, the baseline study revealed an average of 43.5% medicine availability. Metformin, an essential diabetes medicine was only available in 50% of the facilities in the baseline sample.

The major reason for stock outs was mostly beyond the health facilities' control as it is due to erratic supply from the central government's Drug Supply Organization (DSO) that the health facilities rely on for medicine supply. There are challenges in the supply chain and logistic cycle. Medicine shortages for diabetic patients are catastrophic as most of them rely on various medicines to manage the condition. The endline assessment showed a marginal improvement of 5.5% in average medicine availability from 43.5% to 49% for all diabetes medicines on the Zambia Essential Medicines List (EML) as shown in Figure 1 above. Metformin in particular increased by 27% from 53% at baseline to 80% at endline. As part of the intervention effort; all 15 facilities in the target sample had at least a glucometer to measure blood glucose. This is a 27% increase from baseline where 11 of the facilities had glucometer to measure blood glucose. There is however need for better consistency in availability and increased advocacy efforts to the government in order to improve the existing medicines' supply chain.

The endline assessment revealed some notable changes in the pharmacies after the training including better inventory management. A few examples are that all the trained facilities had up to date stock control cards and correct physical count for the sample of stock cards that were counter-checked during the endline survey. The health facilities that had staff trained had more regular meetings for their medicines and therapeutics committees as compared to the control group. The baseline survey revealed a gap in the availability of reference materials in the facilities. Only 47% (7) of the facilities had Standard Treatment Guidelines (STGs) for Diabetes. This improved to 67% (10) facilities. STGs are essential for correct prescribing and rational use of medicines. STGs were provided as part of the intervention to all trainees. Only 3 (20%) out of the 15 health facilities had a health facility list of essential medicines at baseline, this improved to 8 (53%). Availability of a Health Facility Essential Medicine List (EML) is a vital for structured procurement of medicines. Lack of one results in higher stock out incidences of essential medicines. The intervention addressed this gap as this was one of the actions in the action plans devised after training. Three out of the four facilities in the control group did not have a health facility EML at endline and this further substantiates that the change can be attributed to the intervention as improvement was seen in the trained facilities. The dispensing areas for the trained facilities were better organized as compared to the control group facilities.

3. International Diabetes Federation. Recommendations For Managing Type 2 Diabetes In Primary Care, 2017. www.idf.org/managing-type2-diabetes

4. International Diabetes Federation. Recommendations For Managing Type 2 Diabetes In Primary Care, 2017. www.idf.org/managing-type2-diabetes



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Dispensing practice also improved. Instruction labels were available in only 7 (47%) of the facilities at baseline but at endline 14 (93%) had instruction labels available for the tablet packets. Correct labelling is a key component of dispensing and the training curriculum addressed this element for both instruction labels and tablet packets labelling. There was generally an improvement when comparing baseline and endline values. Only 60% (9) of facilities gave caution messages or lifestyle/diet change tips to diabetic patients at baseline and at endline this improved to 11 (73%). The two facilities that scored the least in terms of the patient counselling parameters were in the control group. The control group facilities did not have any diabetic IEC materials displayed or given to patients during dispensing.

Regarding blood glucose tests; there was a 33% attrition rate at endline. 7 of the 21 patients were not available for testing. The reason for this is that 3 of the patients relocated from their residences and the other 4 were not reachable on the mobile phone numbers provided at the Baseline phase. Tests were done for 14 patients out of the original 21. The 14 patients were tested to try and assess whether their blood glucose levels were better controlled after the intervention. The end-line results did not show much improvement in terms of the blood glucose levels for the patients. Only 1 of the 14 (7%) of the patients had HbA1c test result below 7%. Four (29%) of the 14 patients had a marginal decrease in their blood glucose levels comparing the baseline and endline values. The other 10 (67%) had an increase in the blood glucose levels. For six (40%) of the patients, the increase was very marginal all less than 1% change when comparing baseline and endline. None of the 14 patients were admitted into hospital during the project period. The inconsistent medicines supply and infrequent visits by the patients to the hospitals might have also contributed to the results. There is need for a follow up intervention that targets the community level more so that there are more deliberate efforts targeted at the communities possibly through diabetes community champions.

Recommendations based on findings

The Zambian government coordinates a Health Centre Kits initiative that comprises a kit of different pharmaceutical products and consumables that is enough to supply a health facility's general medical needs for one month. The kits have proven to be an effective solution to supply challenges, as they ensure that the right products are available in the right quantities at the right time. In addition, the kits facilitate the improved planning, procurement and in-country distribution of essential medicines. The challenge however is that there is only one diabetes medicine included in the kit; that is Glibenclamide. This explains why there is 100% availability of this

sulfonylurea at both baseline and endline. There is therefore need to advocate that the government at least includes metformin so that the biguanides are also included. Metformin is universally recommended as first-line treatment for Type 2 diabetes and hence its consistent availability is vital. Glibenclamide on the other hand is no longer routinely recommended in most guidelines because of the risks of hypoglycaemia associated with its use, particularly in older people. There is therefore need for more concerted efforts in the advocacy to the Ministry of Health in Zambia. A follow up intervention that strategically includes and engages key stakeholders in the country will be a good way to realize intended impact and improve the pharmaceutical diabetes care in Zambia.

Community outreach and sensitization interventions would also be a great way forward as there is a gap in terms of patient follow up. As diabetes is one of the most demanding chronic conditions psychologically, its management depends to a large extent on availability of essential medicines, treatment adherence and lifestyle changes. This challenge could have possibly affected the HbA1c test results of the patients that were tested in this project at baseline and endline. As a follow up to patient counselling at the health facilities, community sensitization programs are important to help patients cope with managing their condition and changing lifestyle habits through sharing of best practices via community champions, peer education and sharing of best practices.

In conclusion, broad stakeholder engagement and advocacy to African governments about diabetes medicine availability is crucial. Community outreach and sensitization interventions would also be a great way forward as there is a gap in terms of patient follow up. Management of diabetes depends to a large extent on availability of essential medicines, treatment adherence and lifestyle changes.



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Online Course on DIABETES

The online course aims to assist people working in development cooperation and humanitarian aid in understanding the disease and its trends and particularities in low and middle-income countries.

The incidence of non-communicable diseases (NCDs) including diabetes is growing rapidly in low and middle-income countries, causing a double burden along with infectious diseases. This shift in the burden of disease poses a challenge to governments as well as organizations working in the field of public health and development cooperation. Measures for the surveillance, prevention and control of diabetes and its complications need to be more effective.

Previously considered disease of the rich, diabetes is currently one of the top ten causes of deaths in developing countries. According to the International Diabetes Federation, 3 out of 4 people with diabetes now live in LMICs. Several factors have played a role to this rapid increase, including increasing population, increase in life expectancy, urbanization and life-style changes.

In view of this, Buko-Pharma Kampagne, a German NGO examining activities of the pharmaceutical industry in developing countries, designed a free online course on diabetes. The online course aims to assist people working in development cooperation and humanitarian aid in understanding the disease and its trends and particularities in low and middle-income countries. The target group is non-medical and non-pharmaceutical staff working as project managers in projects or strategic planning in civil society organizations.

The course was developed in consultancy with several other German NGOs, the German Medical Aid Organization action medeor, being one of them.

PHARMALINK

Course /organization

The online course provides a comprehensive overview of the diabetes situation worldwide through informative texts, illustrations and useful links. It consists of six modules, each of which is organized into sub-topics. The focus is on low and middle-income countries.

The first module (Module A) introduces the current diabetes situation worldwide and its significance in developing countries. It also highlights the need to adjust the focus of global actors in development cooperation and humanitarian aid towards NCDs, which is discussed in relation to the Sustainable Development Goals.

Module B outlines the types of diabetes, their similarities and differences. It discusses the complications arising from the disease and their increased occurrences in developing countries. The relationship between diabetes and infectious diseases such as TB and HIV/AIDS is also introduced.

Module C highlights the different methods of diagnosing diabetes. Preventive measures and the need for patient education and counselling are also highlighted with a focus on lifestyle changes. Available treatment options of the disease are part of this module. Problems associated with access to medicines, in light of global shortages of anti-diabetic medicines in developing countries, such as price barriers and lack of suitable anti-diabetics are also discussed.

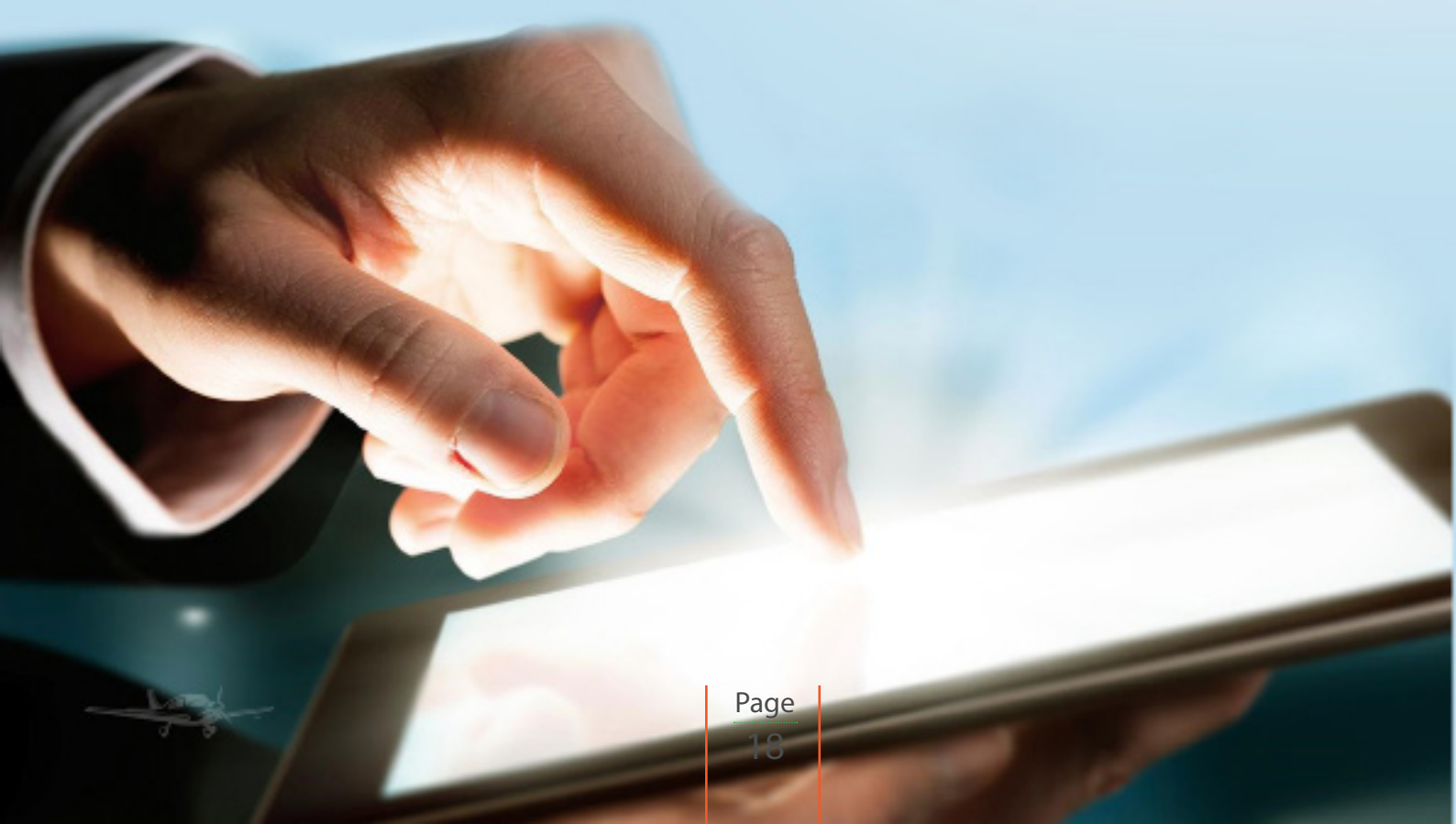
Module D analyses the benefits and risks of commonly used anti-diabetics, such as oral anti-diabetics and insulin. The aim is to assist organizations in the rational selection of medicines for their health projects. National guidelines on diabetes care and the national essential list of medicines are to be taken into account to ensure sustainability.

Module E discusses the global trends in diabetes; Country studies from low and middle-income countries give insights into the trends that led to the rapid increase, such as urbanization and life-style changes. How countries react to the increased need is also part of the case studies. Diabetes in the context of disasters and humanitarian emergencies is described. WHO's current action plans in controlling the disease are also presented.

The final module, Module F illustrates on the basis of ongoing NGO projects, the measures that are being taken in practice. Practical suggestions are provided on how to integrate diabetes care into projects with a focus on the planning and implementation of a project, advocacy work and financing.

Questions are provided at the end of each module to help participants to evaluate their knowledge. A certificate can be obtained upon successful completion of the questions section. Currently, the course is only in the German language; however, there are plans to translate it in to English in order to benefit the international public health community.

Link to the online course: <http://www.bukopharma-online-lernbox.de/diabetes/>





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THE FIGHT to survive and touching people's lives; Yemurai shares her story living WITH DIABETES

Being diagnosed with Type 1 diabetes at a fairly young age has taught me the importance of life and has also made me grow up at a much faster pace than most people my age. My name is Yemurai Machirori, I am a 26-year-old lady from Zimbabwe. I was diagnosed with Type 1 diabetes in September 2004 and yes, every day has brought a new lesson for me: a lesson about life in general but most importantly lessons about my health.

To most people, diabetes is just a condition that can be prevented through a change of lifestyle and eating habits—a notion which is misinformed and highly simplistic. People living with diabetes and/or their caregivers go through daily challenges that others out of those health situations do not understand. These challenges that most people living with diabetes experience on a daily basis include emotional turmoil, stigmatization and discrimination.

My country's ailing economy which has now lasted for over a decade, means that people with diabetes have to go through mental, physical and emotional hoops just to access their much-needed medication and diabetes supplies. This means that people living with diabetes do not only have to go through the stress of living in communities that think that diabetes can be cured using traditional methods or through religious beliefs but also have to go through the

PHARMALINK

stress of not being able to afford basic diabetes medication and supplies because they simply cannot find jobs. With such a complex interplay of social, economic, biological and cultural factors, how then can diabetes management be made easier? When the current environment is so hostile, how easy is it for one to 'change' their lifestyle? Even though diabetes management has evolved significantly over the years mainly due to new technology and advances in treatment options, these technologies and modifications in diabetes management are seen as "curses" by some people especially because of the high costs that they come with.

The diabetes community welcomes these technologies and treatment options, but until social and economic changes are made, there is still much to be done.

While people living with diabetes need to adjust their lifestyles so that they are able to manage their condition well, it is also important for people and policy makers to realize that people with diabetes need assistance so that management becomes easier.

One such level of help can be through policy makers prioritizing access to insulin and other diabetes supplies (especially in the most remote places). Being a young advocate of diabetes has made me view diabetes management from a new perspective, it has broadened my knowledge of the condition and made me understand that if diabetes management is not tackled wholesomely, it will not only cost those that are living with the condition but will also rob economies in the long run because of the high costs that are associated with poor diabetes management. Therefore, diabetes education must also be extended to all areas, while health practitioners should be trained extensively on diabetes care and management.

Ultimately, diabetes management does not only involve taking diabetes medicines, exercising daily and eating right. Successful management involves one having a strong support system, an educated and well informed society and lastly, easy accessibility and affordability of diabetes drugs. The time to act is NOW!





CHIPIMO

shares his story
living with
TYPE 1 DIABETES

Due to a growing and challenging population of diabetes in Zambia, being an advocate for type-one diabetes makes life less complicated and easier for youths such as myself, because living with diabetes is not an easy thing, but it is bearable and very manageable. There is a lot of teaching and learning that comes with diabetes care, and this makes the burden of diabetes lighter. The fact that many people are not aware of diabetes commonly known as Sugar Disease affecting young people, and the lack of proper diabetes education in Africa, makes it even harder for people to understand it. If we look at the stereotypes, the myths and the negative attitude towards people with diabetes, that people often give without even realizing it. Most patients are victims to this predicament, and this is very alarming. People with diabetes often experience a lot of stigma that comes with the disease. We need to understand that having diabetes does not define a person, it is just a health condition that is complex and it is not shameful.

I believe in the phrase "Education is the Key to Success". Therefore, educating people about diabetes from a patient's perspective through the media and other related platforms is vital especially in this technology era. Sharing the struggles of Type 1 diabetes to the world, helps not only myself, but the next person affected by the condition; specifically, the people that feel overpowered by diabetes, the newly diagnosed and the caregivers. I have grown a lot as a person affected by this condition, because I have met many amazing young people trying to be the change in their diabetes communities. If we all work together as Africans, we can achieve great things, because we are the ones that understand our community setup. I have lived with type one diabetes for 7 years now, and with experience I have learned that the best diabetes management tool has four elements. The first being medication, followed by diet then exercise and education. You can't control what you don't know or understand as a person living with diabetes.

MESSAGES ON DIABETES SELF- MANAGEMENT

- ❖ If you have problems with doing the insulin injections don't give up and ask your consultant or GP for help.
- ❖ Tell your friends that you are diabetic and make sure that they know what to do if you have a hypo.
- ❖ Try not to let diabetes affect you but if you are having problems talk to someone.
- ❖ Seek help if you start missing insulin injections or if you are making yourself sick or restricting your food intake. Don't wait until your problem gets worse. Talk to your diabetes care team and be honest with them. They can't help you unless they know what's going on.
- ❖ If others around you don't like the fact that you've got diabetes, don't want to accept it, then they're obviously not friends and you could do better without them. If anyone thinks that you're weird for having to do an injection, just ignore them.
- ❖ Take control of diabetes yourself as soon as you can. Once you start to manage your diabetes everything seems better because you're in control.
- ❖ It's absolutely valid to be upset and it's valid to want to give up. But at the same time there are so many things that you can do and there is nothing that you shouldn't try and do.
- ❖ Always carry something sweet to drink or eat with you everywhere you go.
- ❖ Wear your diabetic pendant when going out with friends.
- ❖ If you go low, don't panic, just self-manage it.
- ❖ Do regular blood glucose tests to understand how your food and insulin interacts.
- ❖ Doing insulin injections is not always easy and it might take you some time to feel confident about doing it. Be patient.
- ❖ If you find it difficult controlling your blood glucose levels you will get miserable and you will feel bad but the thing is to carry on and don't give up.
- ❖ The biggest thing is that you have to aim for is good management of your diabetes because it is not your life and health now but in ten, twenty, or more years down the line.
- ❖ Diabetes doesn't control your life. You have to control diabetes. It's just part of your life, it's not you.

Additional resources can be found from these websites

1. <https://www.who.int/diabetes/en/>
2. <https://www.jwatch.org/na48336/2019/01/24/2019-guidelines-diabetes-care-hospital>
3. <https://www.cdc.gov/diabetes/diabetesatwork/diabetes-basics/management.html>
4. <https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444>
5. <https://www.mayoclinic.org/diseases-conditions/diabetes/multimedia/blood-sugar/vid-20084642>

EPN

