body water (TBW) percentage and mass, extracellular water mass (ECW), intracellular water mass (ICW), basal metabolic rate (BMR). The results are represented as mean ± standard deviation.

Results and discussion.

Age	33.81±11.16	BMI	24.20±2.58
Body Weight. kg	72.68±13.50	SMM, kg	29.85±7.21
Fat, %	21.90±5.93	TBW, kg	38.95±8.24
Fat Mass, kg	15.83±4.92	TBW, %	53.57±5.21
Fat-free mass, kg	56.85±11.73	ECW, kg	16.67±3.02
Muscle Mass, kg	53.99±11.18	ICW, kg	22.27±5.38
Bone Mass, kg	2.85±0.55	BMR, kJ	7054.58±1389.41

Since metformin is a very hydrophilic substance, we expect the strongest correlation of its pharmacokinetics with TBW and ECW values.

Conclusions. Since there is considerable variation of the body composition values in the sample, we suggest studying correlation between these values and pharmacokinetics of metformin after obtaining pharmacokinetic data on the healthy volunteers in the trial.

TYPE 2 DIABETES AND COMPLIANCE TO TREATMENT: FEATURES IN ZAMBIA PRACTIC

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Introduction. International organizations like WHO (World Health Organization), and the IDF (International Diabetes Federation) that monitor and track the rate of diseases like diabetes, have classified and identified it as a global epidemic currently affecting roughly 422 million people (2020) worldwide and 15.9 million in Africa (with 3.1% regional prevalence), in people between the ages of 20-80. The WHO has estimated that the number of people living with diabetes will rise to approximately 629 million by the year 2045 (45% increase). However, WHO currently working on ways and measures to reduces the rate and number of people developing diabetes, especially type 2 diabetes by developing programs and mobile application (Diabetes:M, DiaMeter, SiDiary, et al.) that promote to encourage people to eat healthily and exercise regularly. According to the IDF in conjunction with the Ministry of Health of Zambia in the African region, people living with diabetes is estimated at 273800 amongst adults over the age of 18, with a prevalence rate of 3.4%, at least 86% of them have been diagnosed with type2 diabetes. As of 2016, the Ministry of Health of Zambia had put policies, measures and programs in place to enhance physical activity. There was no registry of a new patient with diabetes in Zambia in 2016.

Aim. To evaluate and analyze patients with type 2 diabetes, management and compliance to their medication and diet routine.

Materials and methods. The practical part of this study was done in collaboration with Kitwe Teaching Hospital (endocrinology department) in Zambia. We realized the analysis of 20 medical histories with type 2 diabetes; every patient was an outpatient visiting the hospital.

Results and discussion. The Zambian National Formulary registered and approved two groups of oral hypoglycaemic drugs to be used in Zambia – sulfonylurea derivatives and biguanides. Oral hypoglycaemic drugs are prescribed after an unsuccessful 3-month trial period of diet and exercise; these drugs complement the diet and are in no way a replacement for it.

The following list is an analysis of the results obtained from patient's medical histories. 67 % of patients had moderate cases of type 2 diabetes, which were treated with drugs from two groups. 33 % of

patients had moderately severity and severity cases of type 2 diabetes. 20% out of 33% had moderately severity cases, they had a few chronic complications like hypertension and were treated with ACE inhibitor (Enalapril, Perindopril), a loop diuretic (Furosemide) and a biguanide (Metformin). The other 13% had severity cases and were treated with insulin, Metformin and one of the sulfonylurea derivatives (Glibenclamide, Gliclazide, and Glipizide). Metformin is the biguanide of choice. Metformin can use in all stages type 2 diabetes treatment in absent contraindications. Metformin is 1st line monotherapy for patients with compensated of type 2 diabetes taken in the morning (80%). The other 18% used insulin preparation called Actophene, 2% used the combination of insulin and Glibenclamide.

Conclusions. According to international recommendations, the first line initial therapy is Metformin, the second line is the combination of Metformin and Glibenclamide, the 3rd line is the combination of Insulin, Metformin and Glibenclamide. These drugs have proven to be very effective in treating and optimizing blood glucose level, that combined with a healthy diet and exercise, will surely improve and increase patients' compliance to therapy for long-term glycaemic control, reducing the risk of further acute and chronic complications that come with being diabetic like hypertension, kidney disease and others. A drug like Metformin are cost-effective and have a high level of availability. These factors make living with diabetes more manageable and achieve some level of normalcy.

THE IMPACT OF THE TEMPERATURE AND DURATION OF BLOOD SAMPLES STORAGE ON GENERAL BLOOD ANALYSIS PARAMETERS

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Introduction. Intra-laboratory quality control is an effective tool for influencing and evaluating the errors of laboratory research, through which the laboratory evaluates the reliability of the obtained result. It includes the following steps: preanalytical, analytical and postanalytical.

The preanalytical step begins with the delivery of the sample and application submission to the laboratory. The registrars check the compliance of the samples with the applications, the state of the samples, the time elapsed from their taking, mark the time of receipt of the sample by the laboratory. At this stage, the registration and identification of biomaterials are carried out, and samples are prepared for further analysis. The most common factors that may reduce the quality of research at the preanalytical stage are related to the collection procedure, compliance with storage conditions (temperature, duration, humidity) and transportation of biosamples, which leads to inconsistency of the results of the analysis.

The analytical step is the most difficult and time consuming: the storage and preparation for analysis, calibration of the analytical system, measurement of laboratory parameters in analytical series, both in patient samples and in control materials, as well as evaluation of acceptable results. The influence of numerous factors affecting different stages of sample processing can lead to erroneous results. Significant fluctuations in the room temperature where laboratory tests are carried out from the established criterion of 18-25°C are accompanied by discrepancy between the results of the analysis and the actual content of the analytes being tested, which leads to the false informing a doctor about the patient's condition. In particular, temperature control is required when performing techniques that require a long incubation of the reaction mixture "at room temperature".

The postanalytic step is a stage that can be divided into in-laboratory and non-laboratory parts. The main element of the intra-laboratory part of the postanalytic stage is the verification by a qualified laboratory technician of the analysis result for its analytical reliability, biological probability or plausibility, as well as comparison of each result with reference intervals. This part of the stage ends with