

4<sup>th</sup> Annual Conference on **DIABETES**

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**Effect of natural and sprouted mung bean extracts grown in Burkina Faso on the metabolism and overall health status of diabetic wistar rats****Kabre Wendmintiri Jeanne d'Arc***Joseph Ki-Zerbo University, Burkina Faso*

Diabetes and its complications are taking on alarming proportions in Burkina Faso and throughout the world despite the various treatments available. In the search for endogenous solutions, the mung bean, selected, cultivated and consumed in Burkina Faso, is of interest to the scientific community due to its high concentration of micronutrients and bioactive molecules. The objective of our study was to evaluate the anti-diabetic activity of natural (MBN) and sprouted (MBG) mung bean extracts in Wistar rats. Diabetes was induced by intraperitoneal injection of streptozotocin (STZ) at a dose of 55 mg/kg body weight. Various biochemical and hematological parameters were monitored. The results show that the blood glucose levels of the negative control rats remained healthy and almost stable ( $113.50 \pm 2.59$  mg/dl on Day 0 to  $104.00 \pm 1.15$  mg/dl on Day 14) in contrast to the positive control rats ( $408.50 \pm 6.63$  mg/dl on D0 to  $422 \pm 2.30$  mg/dl on D14) which remained diabetic during the 14 days of experimentation. The different treatments show the effectiveness of the extracts in reducing blood glucose levels. The comparative effect of the extracts shows a variation in efficacy depending on the type of extract and the concentration. MBN extract at 300 mg/kg.bw significantly lowered blood glucose from  $434.33 \pm 22.67$  mg/dl (D0) to  $167.33 \pm 39.71$  mg/dl (D7) and  $108 \pm 2.64$  mg/dl (D14). Furthermore, the MBG extract at 300 mg/kg.bw was more active than the MBG extract at 150 mg/kg.bw, thus showing a dose-response activity. Treatment with the extracts also improved the other parameters in a dose-dependent manner. These results show that the Mung bean grown in Burkina Faso is a functional food that can be integrated into the dietary habits of populations for a double nutritional and therapeutic interest. Furthermore, they open up prospects for research into the active principles of mung bean with anti-diabetic properties.

**Biography**

With a PhD in Applied Biological Sciences, KABRE W. Jeanne d'Arc is a nutritionist and works on the project "A sustainable diet for urban Burkina Faso" as a research assistant for the Higher Institute of Population Sciences. Her work is oriented towards finding endogenous solutions for the prevention and management of malnutrition and chronic non-communicable diseases. She explores therapeutic foods by combining scientific research and culinary approaches to better help her patients and her community. President of the Burkinabe Association for Nutrition and Preventive Medicine, she is convinced that the fight against chronic non-communicable diseases must be won before the hospital and is involved in raising awareness and formulating food products for the population.