

Conclusions: These results suggest that an exercise (MIA and PRE) prescription for patients on HAART boosts their CD₄ count. Importantly, CD₄ count may be boosted more by MIA than by PRE exercises in patients on HAART and HAART-naive, respectively. The change factor suggests supports this conclusion and the effect size are of clinical significance.

Key words: clinical research Nigeria, clinical trial, developing country, HAART, HIV.

Disclosure of Interest: None declared.

ALDOSE REDUCTASE INHIBITORY POTENTIAL AND ANTI-CATARACT ACTIVITY OF *PUNICA GRANATUM* FRUIT EXTRACT

S.N. Mestry; G.S. Bhatkhande; J.B. Dhodi; and A.R. Juvekar

Institute of Chemical Technology, Mumbai, India

Background: Aldose reductase (AR) plays a pivotal role in the polyol pathway. In the diabetic condition, it is found to cause accumulation of polyol in lens fibers, causing influx of water and generation of osmotic stress leading to sugar cataracts. The objective of this study was to evaluate the AR inhibitory activity and anticataract activity of methanolic extract of *Punica granatum* Linn. fruit (MPGF).

Methods: AR inhibitory activity was evaluated in vitro in goat lenses. For the cataract model, goat lenses were incubated in artificial aqueous humor containing 55 mM of glucose with MPGF in different concentrations at room temperature for 72 hours. Opacification of the lens was assessed by counting the number of squares when placed over a graph paper, and biochemical parameters were estimated.

Results: MPGF exhibited in vitro AR inhibition activity with an IC₅₀ of 300.43 (4.36) µg/mL. Glucose-induced opacification of the goat lens began 24 hours after incubation and was completed in 72 hours. Cataractous lenses showed higher malondialdehyde and lower reduced glutathione, superoxide dismutase, and total proteins. Lenses treated with MPGF prevented formation and progress of cataract by glucose, as evidenced by biochemical parameters.

Conclusions: MPGF prevented cataract formation due to inhibition of the AR enzyme.

Key words: anticataract activity of *Punica granatum* fruit extract.

Disclosure of Interest: None declared.

COST-EFFECTIVENESS STUDY OF ANTIHYPERTENSIVE DRUGS IN MUMBAI, INDIA

D. Limaye¹; M. Kale²; N. Chitre²; D. Deshpande²; R. Desai²; V. Limaye¹; and G. Fortwengel¹

¹*Hochschule Hannover, Hannover, Germany; and* ²*Institute of Chemical Technology, Mumbai, India*

Background: Hypertension is a serious global public health problem. It accounts for 10% of all deaths in India and is the leading noncommunicable disease.¹ Recent studies have shown that the prevalence of hypertension is 25% in urban and 10% in rural people in India.² It exerts a substantial public health burden on cardiovascular health status and health care systems in India.³ Antihypertensive treatment effectively reduces hypertension-related morbidity and mortality.¹ The cost of medications has always been a barrier to effective treatment. The increasing prevalence of hypertension requires use of cost-effective treatment for the effective management of the disease.

Objectives: The present study assesses the cost-effectiveness of antihypertensive drugs in patients with hypertension from Mumbai, India.

Methods: A prospective cross-sectional study was conducted to assess the cost-effectiveness of antihypertensive drugs. Face-to-face interviews were conducted by using a validated questionnaire in a

total of 136 (66 males, 70 females) patients with hypertension from F-North Ward, Mumbai, India. Cost-effectiveness was determined on the basis of a drug's cost, efficacy, adverse drug reactions, safety of administration, frequency of administration, and bioavailability. **Results:** Atenolol was most cost-effective (international normalized ratio [INR]: 5.5/unit of effectiveness), followed by the amlodipine + losartan combination (INR: 5.6/unit of effectiveness) and amlodipine (INR: 6.3/unit of effectiveness) in the present study. Thirty-eight (28%) patients received combination therapy. Lisinopril prescribed to 16 (11.8%) patients was the least cost-effective drug (INR: 17.2/unit of effectiveness).

Conclusions: Prescriptions of cost-effective antihypertensive drugs (73.5%) were more common than less cost-effective antihypertensive drugs (26.5%) in hypertensive patients from Mumbai, India. Most of the patients (72%) were prescribed monotherapy in the treatment of hypertension.

Key words: antihypertensive, cost-effectiveness, hypertension, India.

Disclosure of Interest: None declared.

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COST-EFFECTIVENESS STUDY OF ANTIDIABETIC DRUGS IN TYPE 2 DIABETES MELLITUS PATIENTS FROM MUMBAI, INDIA

D. Limaye¹; K. Todi²; J. Shroff²; A. Ramaswamy²; P. Kulkarni²; V. Limaye¹; and G. Fortwengel¹

¹*Hochschule Hannover, Hannover, Germany; and* ²*Institute of Chemical Technology, Mumbai, India*

Background: Diabetes is fast gaining the status of a potential epidemic in India, with >62 million individuals currently diagnosed with the disease.¹ India currently faces an uncertain future in relation to the potential burden that diabetes may impose on the country. An estimated US\$ 2.2 billion would be needed to sufficiently treat all cases of type 2 diabetes mellitus (T2DM) in India.² Many interventions can reduce the burden of this disease. However, health care resources are limited; thus, interventions for diabetes treatment should be prioritized.

Objectives: The present study assesses the cost-effectiveness of antidiabetic drugs in patients with T2DM from Mumbai, India.

Methods: A prospective cross-sectional study was performed to assess the cost-effectiveness of antidiabetic drugs in patients with T2DM. Face-to-face interviews were conducted by using a validated questionnaire in a total of 152 (76 males, 76 females) patients with T2DM from F-North Ward, Mumbai, India. Cost-effectiveness was determined on the basis of a drug's cost, efficacy, adverse drug reactions, safety of administration, frequency of administration, and bioavailability.

Results: The glimepiride plus pioglitazone combination was the most cost-effective (international normalized ratio [INR]: 3.7/unit of effectiveness), followed by glimepiride (INR: 6.6/unit of effectiveness) prescribed in nonobese patients with T2DM. Glimepiride plus metformin was the most cost-effective (INR: 5.9/unit of effectiveness) followed by metformin (INR: 6.7/unit of effectiveness) prescribed in