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Eligibility of Nigerians with type 2 diabetes mellitus for inhaled insulin.

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Abstract

BACKGROUND: Parenteral delivery of insulin has been shown to reduce acceptance of insulin as a treatment option in type 2 diabetes mellitus (DM) patients. The advent of inhaled insulin is aimed at circumventing this problem; however inhaled insulin is a treatment option only for DM patients with normal lung function.

OBJECTIVE: The study set out to evaluate the forced expiratory volume in the first second in Liters (FEV1) of Nigerians with type 2 DM and thus determine the proportion potentially eligible for inhaled insulin.

METHODS: FEV1 was measured in 101 subjects with type 2 DM and 104 age, gender and body mass index matched controls without DM. All subjects were 'never smokers' without any physical condition that could compromise lung function. We then determined the proportion of subjects with FEV1, more than 70% of normal, which defines eligibility for inhaled insulin.

RESULTS: On the basis of the mean FEV1 in Liters of matched controls in this study being 2.58+0.62, the cut off for minimum FEV1 to qualify for inhaled insulin therapy was determined as 1.80 liters (i.e 70% of 2.58). A total of 83 (84%) of the 101 subjects with type 2 DM had FEV1 >1.8 liters indicative of eligibility for inhaled insulin. Male sex, shorter duration of DM, normal body mass index (BMI) and younger age were associated with eligibility.

CONCLUSION: A high proportion of Nigerians with type 2 DM attending tertiary care are eligible for inhaled insulin therapy making it a treatment option. The feasibility of this treatment option in terms of acceptability, affordability, side effect profile and efficacy in blood glucose control in Nigerians is an important research focus.

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MeSH terms, Substances



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