

DEDICATION

**TO MY LATE BELOVED FATHER, DR TIMOTHY PAUL, WHOSE
MOTIVATION AND NUMEROUS SACRIFICES DURING THE
COURSE OF HIS LIFETIME ASSISTED ME TO EARN THIS
HIGHER DEGREE**

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SYNOPSIS

**TITLE: Exercise Practices, Dietary Habits and Medication Usage
 among persons with Type-I Diabetes**

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The aim of this study was to gain insight into the exercise practices, in conjunction with dietary habits and medication routine of insulin dependent diabetics. The study design adopted for the study was that of descriptive and analytical survey. The gathering of data was conducted over a period of seven months using a questionnaire as a data collection instrument, which was administered to 200 insulin dependent diabetics utilizing the outpatient facilities at 12 hospitals in Kwa-Zulu Natal.

In determining the respondent's attitude towards exercise, the significant ($p < 0.001$) overall majority (85%) had a positive attitude towards exercise. In probing the perceived efficacy of exercise as a therapeutic modality, a significant ($p < 0.001$) majority (93%) of the respondents stated that exercise/sport is beneficial to a diabetic. Of the overall sample, the significant ($p < 0.001$) majority (68%) of respondents were active participants in exercise (exercisers) versus 32% who were not active (non-exercisers). The profile of the exercisers indicated that the significant ($p < 0.001$) majority participated in exercise of an aerobic type at frequency of 4 or more times per week, at an intensity eliciting an approximate heart rate of between 110 to 130 beats per minute corresponding with an RPE of 11 to 13, for a duration of 20 to 45 minutes.

A significant ($p < 0.001$) overall majority (98%) stated that a good diet is an important factor when trying to achieve near normoglycemia. In probing the respondent's knowledge as to what group certain types of food belong to, an

overall significant ($p < 0.001$) majority (82%) was accurate in this regard, while significantly ($p < 0.1$) more exercisers (84%) were aware of correct food grouping than non-exercisers (67%). In probing their knowledge of the normal range of blood glucose levels, an overall significant ($p < 0.001$) number of respondents (66%) stated a correct response, while exercisers (67%) were significantly ($p < 0.1$) more knowledgeable than non-exercisers (52%) in this regard. The significant ($p < 0.001$) majority of respondents injected themselves three and more times a day (54%), before meals (71%), in the thigh (35%) and abdominal areas (48%), as opposed to the gluteal area (10%) and the arm (8%). The mean overall dosage of long-acting insulin (12.2 units) and short-acting insulin (10.5 units) for lunch was significantly lower ($p < 0.1$) than for breakfast and supper, however there was no significant difference ($p > 0.1$) between the breakfast and supper dosages. The same pattern was observed for non-exercisers and exercisers. The respondent's knowledge of good diabetic management goals reflected that a significant ($p < 0.001$) overall majority (83%) were aware that diet, insulin and exercise are all important constituents in obtaining good diabetic management, while significantly ($p < 0.1$) more exercisers (84%) than non-exercisers (71%) were aware of this. A significant ($p < 0.001$) majority (83%) of non-exercisers stated that they were willing to participate in exercise, but cited time constraints and physical discomfort, inter-alia, as antecedents to non-participation.

In conclusion, the results indicated that the provision of educational support for insulin dependent diabetics to overcome the perceived barriers to exercise would increase participation, enhance appropriate exercise prescription and compliance to this important aspect of the diabetic regimen.

Keywords:

Insulin dependent diabetes mellitus; exercise; diet; medication; education

SINOPSIS

**TITEL: Oefenpraktyke, Dieëtgewoontes en Medikasie Gebruik
onder persone met Tipe-I Diabetes**

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Die doel van hierdie studie was om insig te verkry in die oefenpraktyke, in samehang met dieëtgewoontes en medikasie gebruik, onder insulineafhanklike diabeete. Die studie ontwerp het 'n beskrywende en ontledende opname behels. Data-insameling het oor 'n sewe maande tydperk gestrek, deur middel van 'n vraelys wat voltooi is deur 200 insulineafhanklike diabeete, wat van die buite pasiënt fasiliteite aan 12 hospitale in Kwa-Zulu Natal gebruik gemaak het.

In die bepaling van respondente se houding teenoor oefening, was die beduidende ($p < 0.001$) meerderheid (85%) positief. Met ondersoek na die beleefde doeltreffendheid van oefening as 'n terapeutiese modaliteit, het die beduidende ($p < 0.001$) meerderheid (93%) van respondente aangedui dat oefening/sport voordelig is vir die diabeet.

Uit die algehele proefsteek, was die beduidende ($p < 0.001$) meerderheid (68%) van respondente aktiewe deelnemers aan oefening (aktiewes) teenoor 32% wat nie aktief was nie (nie-aktiewes). Die oefenprofiel van die aktiewe respondente het getoon dat die beduidende ($p < 0.001$) meerderheid aan aerobiese tipe oefening deelgeneem het met 'n frekwensie van 4 of meer maal per week, teen 'n intensiteit met 'n harttempo respons van ongeveer 110 tot 130 slaes per minuut wat met 'n Borgskaal van 11 tot 13 ooreengestem het, en vir 20 tot 45 minute geduur het.

'n Beduidende ($p < 0.001$) algehele meerderheid (98%) van respondente was van mening dat 'n goeie dieët 'n belangrike faktor is om nasteenby normoglukemie te handhaaf. Met ondersoek na die respondente se kennis ten opsigte van die voedselgroepe waarin sekere kossoorte geklassifiseer word, was die beduidende

($p < 0.001$) algehele meerderheid (82%) akkuraat, terwyl beduidend ($p < 0.1$) meer aktiewe respondente (84%) bewus was van korrekte voedselgroepering as nie-aktiewes (67%). Soortgelyk, was die beduidende ($p < 0.001$) algehele meerderheid (66%) van respondente se kennis korrek ten opsigte van die normale omvang van bloedglukose waardes, terwyl beduidend ($p < 0.1$) meer aktiewe respondente (67%) as nie-aktiewes (52%) korrek ingelig was in hierdie verband. Die beduidende ($p < 0.001$) meerderheid (66%) van respondente het hulself drie en meer keer ingespuit (54%), voor maaltye (71%), in die dybeen (35%) en abdominale gebied (48%), teenoor die gluteale gebied (10%) en arm (8%). Die gemiddelde algehele dosering van langwerkende (12.2 eenhede) en kortwerkende (10.5 eenhede) insulien vir middagete was beduidend ($p < 0.1$) minder as vir ontbyt en aandete, maar daar was geen beduidende verskil ($p > 0.1$) tussen die ontbyt en aandete doserings nie. Dieselfde patroon is gevind vir beide aktiewe en nie-aktiewe respondente. Die steekproef se kennis met betrekking tot aanvaarde diabetiese beheerbeginsels het getoon dat die beduidende ($p < 0.001$) meerderheid (83%) daarvan bewus was dat dieët, insulien en oefening almal belangrike komponente is, terwyl beduidend ($p < 0.1$) meer aktiewe respondente (84%) as nie-aktiewes (71%) daarvan bewus was. 'n Beduidende ($p < 0.001$) meerderheid (83%) van nie-aktiewe respondente het te kenne gegee dat hulle bereid is om aan oefening deel te neem, maar het onder andere 'n gebrek aan tyd en fisieke ongemak as redes vir nie-deelname aangevoer.

In samevatting, het die resultate aangedui dat die voorsiening van opvoekundige leiding vir insulienafhanklike diabetes om die beleefde struikelblokke tot oefening te oorkom, deelname sal verhoog, en gepaste oefenvoorskrif en getrouheid tot hierdie belangrike komponent van die diabetiese routine sal verbeter.

Slutwoorde:

insulienafhanklike diabetes mellitus; oefening; dieët; medikasie; opvoeding.

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