“EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAM ON KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF TYPE 2 DIABETES MELLITUS AMONG ADOLESCENTS IN SELECTED SCHOOLS OF KERALA”

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ABSTRACT

Background Type 2 Diabetes Mellitus (T2DM) is a global epidemic which has exacted a heavy toll on the Indian youth. T2DM is a lifestyle disease linked to obesity and physical activity patterns. Objectives of the study were (i) to assess and compare the knowledge and lifestyle practice inventory related to prevention of T2DM among adolescents,(ii) to find the relationship between knowledge and lifestyle practice inventory among adolescents in experimental and control groups attending selected schools, (iii) to compare the knowledge and lifestyle practice inventory among adolescents attending selected urban and rural schools and (iv) to find the association between pretest knowledge and lifestyle practice inventory related to prevention of T2DM with selected variables of adolescents attending selected schools in Kerala. The aim of the study was to empower adolescents with the knowledge to prevent T2DM by adopting a healthy lifestyle based on Health Belief Model.

Methods: Experimental study with pretest posttest control experimental groups by quantitative approach was designed. Multistage stratified random sampling was used to select 975 adolescents, studying in 9th standard of 18 selected schools from two districts, who were assigned to control and experimental groups respectively. A pretested, validated questionnaire was used to collect data on knowledge and lifestyle, inclusive of food habits and activity patterns.
along with bio-physiological and demographic profile and a structured teaching program on T2DM was used as tool. Ethical clearance, administrative permissions, consent from Principal as responsible guardian and assent from students were obtained. Pretest was given to both groups; STP was given to experimental group after pretest, followed by posttest after 30 days to both groups. Descriptive and inferential statistics were employed to analyze the data and test the hypotheses using SPSS v.18.

Results:

Knowledge about T2DM was average for both groups; risk factors (87.7%) were best known and complications (43.53%) were least known. Knowledge among experimental group (mean pre 7.89 ±2.08, 8.21 ±2.14 post) was higher than control (pre7.64 ±2.11; post 7.78 ±2.43). A significant gain in knowledge score ((t= -3.064, p<0.002) was found in experimental group after the teaching on DM. Rural subjects were better informed than urban; statistical difference was highly significant (p<0.001).

Healthy food habit in experimental (35%) was more than control (26.8%) initially; with unhealthy habits equally prevalent. Significant (p<0.001) difference was evident on posttest for unhealthy and overall food habits after intervention. Corresponding findings in control group was seen without STP. Healthy food habits remained stable in both groups. Food habits in urban significantly differed (p<0.05) from that of rural; the latter being unhealthier.

Physical activity was limited to < 30 min per day for majority in control (72%) and experimental (56.2%). Fewer subjects in control (5.2%) and experimental (7.3%) limited the screen time to < 1 hour/day and 2.4% (C), 5.2% (E) to <2hours /day respectively. Majority (42.5% and 45.7%) spend >4 hours to <10 hours on sedentary pursuits from control; while 35.6% and 31.9% and
experimental groups spend 10 - 24 hours /day. Watching TV, using mobile and computer were the activities majority adolescents enjoyed.

Lifestyle showed significant difference (p<0.001) on unhealthy food habits, healthy activities, and sedentary activities during holidays among subjects in experimental group after intervention. Healthy food habits and sedentary activities on week days remained stable. Comparable findings were observed in control group also. Age, gender & paternal T2DM were associated with the knowledge in control group; with age alone in experimental group. Lifestyle had association with income, religion and maternal occupation in experimental group and birth order in control group. WHR values reduced significantly (p<0.001) in experimental group after intervention; with control group from rural area showing similar result (p<0.001). However, a stepwise linear regression model with WHR and study variables did not predict WHR in posttest.

**Conclusion:** Structured Teaching Program could bring significant changes in knowledge and lifestyle in terms of unhealthy food habits and sedentary activities among adolescent school children as a preventive measure against T2DM.

**Key words:** Type2Diabetes Mellitus, prevention, adolescents, knowledge, lifestyle, structured teaching programme.