



19th World Obesity Congress

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Posters

19TH WORLD OBESITY CONGRESS

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Assessing community readiness for childhood overweight prevention in elementary school children: A case study in Phra Nakhon Si Ayutthaya

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Childhood overweight and obesity is a global public health concern. Thailand is using community-based interventions, but few people know about how to tailor these approaches to local needs and assets. This qualitative study applied the Community Readiness Model (CRM), for the first time in Thailand, to understand community contexts that could facilitate or hinder the development of an overweight prevention model and to demonstrate its applicability in designing tailored interventions. A semi-structured interview was used to assess community readiness in Sena municipality, Phra Nakhon Si Ayutthaya. Twelve key informants from different segments of the community (e.g. community leaders, parents, healthcare, school and municipality), were identified and included. The CRM assesses 9 stages of readiness for 5 dimensions: Community knowledge, community knowledge of the efforts, leadership, community climate and resources. The interviews were transcribed verbatim and were firstly analyzed thematically and then scored using the CRM assessment guidelines. The overall community readiness score was 1.62 which was equal to the first stage of readiness: No awareness. It means that the community has not yet recognized that there is a problem that needs to be changed. The CRM is an assessment tool that provides insight into the context which the community is working on overweight prevention. This understanding should facilitate the use of strategies matched to the community level of readiness. Further, community readiness scores can be used to measure progress toward achievement of the desired outcomes.

Biography

Achara Pakdeepinid is currently pursuing Doctor of Philosophy with major in Education and Social Development from Burapha University. She has received her Bachelor's degree in Nursing Science and Master's degree in Science, major subject is Counseling Psychology. She has over 10 years of counseling experience in psychology problems and behavioral modification. She is also interested in motivational interviewing and developed behavioral modification curriculum, a short course training for nurse case managers. Currently, she is working at the Bureau of Non-Communicable Disease, Ministry of Public Health, and Thailand.

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Nutrition therapy for burst abdomen patient with hypoalbuminemia

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Burst abdomen or abdominal wound dehiscence is a serious postoperative complication with increased morbidity and mortality of the patient. Adequate carbohydrate, protein and fat intake are needed for wound healing process. Lack of nutrition would negatively affect wound healing process by inhibiting fibroblast proliferation, collagen synthesis and Epithelialization. 19 years-old man was admitted to the hospital with diagnosis of burst abdomen. The chief complaint was low food intake for 3 weeks due to loss of appetite and difficulty in swallowing. On physical examination there were anemic conjunctiva, loss of subcutaneous fat and muscle wasting. On abdominal examination, there was opened operative wound, 20×10 cm, in midline, left and right quadrant of the abdomen with yellowish liquid and pus secretion. The patient was diagnosed with severe protein energy malnutrition based on subjective global assessment, with anemia (10.3 g/dL), immune depletion (TLC 808/uL) and hypoalbuminemia (3.1 g/dL). Nutrition therapies given to this patient were 2000 kcal energy. Earlier on therapy we gave calories by parenteral nutrition combined with full liquid diet oral nutrition. When the calories intake had reached the target, we gave extra 500 kcal for weight gain management. After 27 days therapy, the wound closed, Hb increased from 10.3 g/dL to 11.7 gr/dL, albumin increased from 3.1 g/dL to 3.6 gr/dL and TLC increased from 808/uL to 1560/uL. Optimal nutrition therapy would accelerate wound healing process and increase albumin level in burst abdomen patient.

Biography

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Nutritional therapy of chronic kidney diseases with acute pulmonary edema

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Introduction: Chronic Kidney Disease (CKD) is defined as structural or functional kidney damage for 3 months or more, generally progressive and irreversible, with $eGFR \leq 60$ ml/min/1.73 m² affecting some metabolic pathways. Pulmonary edema is a frequent complication of CKD. The risk of Acute Pulmonary Edema (APE) in individuals with CKD particularly stage 5 (renal failure) has been reported in several literatures. On the other hand, malnutrition occurs commonly in CKD patients, known as Protein Energy Wasting (PEW), therefore nutritional intervention is required.

Case Report: A male 31 years old with a medical diagnose acute on CKD differential diagnoses CKD+APE. Diagnosis of nutrition was moderate protein energy malnutrition with metabolic disorders were normocytic normochrome anemia (Hb 8.1 g/dl), severe immune system depletion (TLC 937 cells/mm³), leukocytosis (WBC 29300/ μ L), azotemia (serum urea 222 mg/dl, serum creatinine 15.81 mg/dl), hypoalbuminemia (serum albumin 2.6 g/dl), hyponatremia (132 mmol/L), hyperkalemia (7.3 mmol/L) and functional gastrointestinal status. Nutritional management was given 480 kcal energy and increased gradually according to the tolerance of the patient to 1600 kcal of total energy expenditure, with macronutrient composition 9% of protein (0.8 g/kg of IBW/day), 50% of carbohydrate and 41% of fat. Patients were given micronutrients, extract fish cork capsules, curcuma, fish oil and ion-exchange resins. Fluid requirements 1000 ml+urine output per 24 hours. At the end of monitoring (day 24) obtained an improvement in immune system (TLC 1254 cells/mm³), WBC 7600/ μ L, serum albumin 3.0 g/dl, potassium 3.9 mmol/l and sodium 136 mol/L.

Conclusion: Nutrition interventions in CKD are given with the aim of reducing uremia toxicity, improving the state of malnutrition and inflammatory syndromes, improving metabolic disorders and enhance the quality of life of patients.

Biography

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Nutritional management in rectal carcinoma patient with wound dehiscence and hypoalbuminemia

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Introduction: Nutrition is known to play an important role in wound healing, malnutrition will impair in normal process of wound healing. Adequate intake of macronutrients and micronutrients before, during, and after surgery can affect the rapidity and potency of tissue repair.

Case Report: A 52-year-old man was consulted by a surgeon with post-laparotomy rectal carcinoma and post colostomy wound dehiscence. The main complaint of decrease intake since last 3 months, get worse in last 2 months due to reduced appetite. There was no nausea, vomiting and fever. Twenty four hours intake was 204.5 kcal. Patients were diagnosed with mild to moderate malnourished (SGA), microcytic hypochromic anemia (Hb 11.5 g/dl), immune depletion (TLC 610 u/L), hypoalbuminemia (albumin 2.5 g/dL), hyponatremia (Na 130 mmol/L) and functional gastrointestinal state. On physical examination we found sign of anemia, loss of thoracal subcutaneous fat and wasting on both lower extremities. Nutritional therapy with 1600 kcal energy was given oral and parenteral nutrition to reach the calorie target within the first four days. After being treated for 26 days, there was an increase albumin levels by 0.4 g/dl on day 15 (albumin 2.5 g/dl to 2.9 g/dl), immune depletion levels by 450 u/L (TLC 610 u/L to 1060 u/L).

Conclusion: Optimal nutrition support can accelerate wound healing and increase albumin levels and TLC in rectal carcinoma patients.

Biography

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Nutritional support on postoperative Whipple procedure of pancreatic head carcinoma with hypoalbuminemia

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Introduction: Pancreatic cancer is one of the most common gastrointestinal tumors and is the fifth leading cause of death in developed countries including the United States. Even though mortality rates of pancreatic cancer are projected to fall by 3% in the UK between 2014 and 2035, to 17 deaths per 100,000 people by 2035 but it is still a major problem worldwide. Over 98% of patients die within six months of diagnosis, one of cancer-related comorbidities is malnourished and this is associated with the risk of complications, increased length of hospitalization and mortality, thus nutritional intervention is required.

Case Description: A female, 64 years old, was consulted anesthesiologist with pancreatic carcinoma with hypoalbuminemia. From the heteroanamnesis it was found that the patient was not allowed to eat and drink 5 days before by the digestive surgeon, due to the surgery. Patient had nasogastric tube with 30 cc/4 hours of black residue. There was weight loss in the previous month about 6 kg. 24 hours energy intake was 0 kcal. Nutritional diagnosis was moderate protein energy malnutrition (SGA), with anemia (Hb 11, 3), leukocytosis (WBC 12.300), severe immune system depletion (TLC 390/uL), hypoalbuminemia (albumin 1.6 g/dL) and normal gastrointestinal function. Nutritional therapy was given of clear liquid diet with 5% dextrose and through parenteral nutrition 1000 cc/24 hours. The amount and composition are gradually increased according to the tolerance and condition of the patient up to 1600 kcal, 2 g/kg BW (body weight) / day (25%) protein, 50% carbohydrate and 25% fat. After 28 days of treatment, intake improved to 98.5% of patient's total energy requirement, hemoglobin 12.7 g/dl, WBC 10.080/uL, TLC 1250 cells/mm³ and albumin 2.9 g/dL.

Conclusion: Optimum nutritional support can accelerate healing in post-operative pancreatic cancer patients, increase albumin levels and improve patient quality of life.

Biography

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Accepted Abstracts

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The impact of obesity on seminal fluid in patients with male infertility

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Background & Aim: Data on the effect of obesity on seminal fluid and men fertility are inconsistent. The aim of this study was to evaluate the impact of Body Mass Index (BMI) on semen characteristics.

Method: A cross-sectional study was conducted on 74 infertile men. Semen sample were collected and sperm concentration, progressive motility, total motility and normal sperm morphology were assessed in accordance with WHO 2010 criteria. For each patient, weight and height were measure and patients were divided by BMI into normal weight (BMI: 18.5-24.9 kg/m², n=30), overweight (BMI: 25-29.9 kg/m², n=30) and obese (BMI: ≥30 kg/m², n=14). Seminal fluid parameters were compared among the three groups.

Result: Although sperm concentration was lower in obese men, sperm concentration, progressive and total motility and normal sperm morphology did not significantly differ among normal weight, overweight and obese groups (P>0.05).

Conclusion: Our findings suggest that BMI may have no influence on sperm concentration, motility and normal morphology in infertile men.

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Recuperative effect of nesfatin-1 in the spermatogenesis and steroidogenesis in the diabetes mice

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Introduction & Aim: Recent investigation has reinforced and validated the nesfatin-1 as an adipokine principally involved in whole body energy homeostasis. It imparts several physiological roles including puberty onset, sleep, stress regulation, behavior response, reproduction, etc. This study was aimed to evaluate the effect of nesfatin-1 in the regulation of testicular physiology in the diabetic mice.

Method: The diabetic mice were treated intraperitoneally for 14 days (SD) with 1.25 nM/gbw nesfatin-1. The treatment produced significant changes in the spermatogenesis and steroidogenesis activity in the diabetic mice.

Result: Nesfatin-1 treated diabetic mice showed increased proliferation of germ cells as indicated by increased accumulation of spermatocytes and round spermatid in the seminiferous tubule. Nesfatin-1 treatment increases the testicular expression of Proliferating Cell Nuclear Antigen (PCNA) and B-Cell Lymphoma-2 (BCL-2) expression compared to diabetic control group mice, which further support the importance of nesfatin-1 in germ cell proliferation, their survival and spermatogenesis. The diabetic mice treated with nesfatin-1 showed significant increase in testosterone synthesis compared to diabetic control mice due to stimulatory effect of nesfatin-1 on testicular 3 beta HSD activity and increased expression of Steroidogenic Acute Regulatory protein (StAR) and Luteinizing Hormone (LH-receptor) proteins.

Conclusion: In addition, nesfatin-1 treatment also showed increased glucose transport by increasing the expression of glucose transporter (GLUT-8) and Insulin Receptor (IR) proteins in the testis. This study further explored the increased production of testosterone may be mediated via increased production of nitric oxide. Altogether, the study suggests the stimulatory role of nesfatin-1 in the regulation of testicular steroidogenesis and spermatogenesis, including testicular metabolism in diabetic mice.

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Implementation of nutritional awareness program on eating habits of primary school children

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Statement of the Problem: Globally, including Turkey, health problems associated with malnutrition and nutrient deficiencies in childhood will remain major public health problems in future. Many studies support, the fact that nutritional knowledge makes contribution to wellbeing of children and their school performance. The purpose of this study was to examine nutritional knowledge and eating habits of primary school children and to investigate differences in these variables by socioeconomic status.

Methodology & Theoretical Orientation: A quasi-experimental one group pre-test/post-test design study was conducted in five primary schools totaling 200 children aging 9-10 years in grade-4 to determine effect of nutritional awareness program on eating habits of primary school children. The schools were chosen according to parents' social and demographic characteristics. Implemented nutritional awareness education program focused on healthy life style and the program consisted of eight lessons. The teaching approaches used included interactive teaching, role playing, demonstration, small group discussions and feedback.

Finding: The obtained data were analyzed for normality and the distribution of the variables was tested by the Kolmogorov-Smirnov test. Paired t-test was used to evaluate effectiveness of education program and to compare the above-mentioned variables in each school separately before and after the lessons. Result of the paired t-test conducted separately for each school showed that on average after eight lessons, there was a 25-32% increase in nutritional knowledge of students regardless of school they attend to and this rate was significant ($P < 0.01$). This shows that increase in nutritional awareness in these five schools having different socio-economic status was like each other.

Conclusion & Significance: This study suggests that having children involved directly in lessons help achieving nutritional awareness leading to healthy eating habits. Study findings will provide information for developing nutrition education programs for healthy life and obesity prevention in children.

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Three years follow up (cohort) study via population-based intervention on adolescent and childhood obesity and overweight at schools setting

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Background: Obesity and overweight are recognized as major global public health phenomena. Its long-term consequences are many of wide variety of chronic conditions including high blood pressure, type-2 diabetes, stroke, cardiovascular disease and certain forms of cancer; which in turn are primary drivers of healthcare spending, disability and deaths, childhood obesity is complex and multidimensional, which has been identified as a public health priority. It is also recognized that, obesity decreases the quality of life and life expectancy considerably.

Objective: To assess population-based childhood obesity intervention over three years at school population in Dubai and to examine the childhood obesity intervention outcome.

Methodology: About 2,60,000 students age range (5-18) years grade (1-12) over about 180 private schools in Dubai over three consequence academic years 2014-2015, 2015-2016 and 2016-2017, BMI measurement as per CDC criteria and chart, WHO (mean±SD) centile body weight at the beginning of each academic year (September), wide variety of interventions been designed and applied, e.g., health promotion, school nutritional education activities, food labeling, happy schools initiatives, 10/10 initiative physical activity platform, parents awareness, students health file initiative, city makers (blue team initiative), community participation (private-public partnership, governmental stockholders intersect oral collaborations, school canteen policy and guideline, BMI and other age and gender based BMI and centile measurement done at the end of academic year (June) for three successive academic years.

Result: The current study revealed that about 8.7% of the total student's population in private schools in Dubai were obese and about 1.4% of the total students were morbid obese in total of 10.1% of the total students were obese of different severity. The study showed that the prevalence of obesity among student population at private schools in Dubai during the academic year 2015-2017 was 9.05%, the study showed 0.9% reduction of obesity comparing academic year 2014-2015 to academic year 2015-2016, the study reflected that prevalence of obesity among student population at private schools in Dubai during the academic year 2016-2017 was 8.2% which was about 1.3% less comparing to the prevalence of obesity during academic year 2015-2016. The study revealed that the trend of obesity prevalence among student population at private schools in Dubai is declining over that last three academic years (2014-2015, 2015-2016, 2016-2017) showing that about 2.2% total reduction in the three years period of applying effective intervention program.

Conclusion: Multidisciplinary public health intervention for childhood obesity is successful in producing weight loss in the short and long term when stakeholders brought on board effective means.

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Obese children crave food and they will do anything to have it

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Pediatric obesity is a complex public health issue that many health professionals find difficult to address and provide relevant treatment. Current practice which recommends an increase in physical activity and a decrease in energy intake is a simple solution for a complex problem. Unfortunately, this simple approach has had little impact on the rates of pediatric obesity. Current pediatric obesogenic environments perpetuate weight gain in children by encouraging over consumption of negative food choices that are high in kilojoules and nutrient poor. The aim of the study was to improve our understanding of the obese child and the role they play in their obesity. Our findings revealed that obese children are highly food focused experiencing hyperphagia that drives their desire for food and perpetuates disordered food behaviors such as self-feeding, stealing food, hiding food, over eating and the use of a wide range of coercive behaviors to acquire the foods they desire. Parents of obese children stated that their children love food, are always hungry, pester them for food repetitively and describe the child as having a food addiction. Food consumes an obese child's life, they think, talk and crave food constantly day after day and placing food restriction only creates negative behaviors. The parents experience arguments, pestering, tantrums, verbal and physical abuse leading to negative psychosocial outcomes for both the child and parent. There needs to be more recognition of an obese child's dependence on negative food choices which leads to the development of disordered food behaviors negatively affecting their weight gain. Furthermore, parents are not equipped with the skill set to cope with the obese child's behavioral issues and therefore health professionals need to be more understanding of the challenges that parents face when they try to reduce food intake and increase physical activity.

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Malnutrition and its underlying causes among vulnerable populations living in the makeshift site and in the host communities in Bangladesh refugee camp

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Acute and chronic malnutrition are associated with disease and death. Prevalence of malnutrition is positively correlated with children's mortality rates in refugee camp (Kutupalong, Cox's Bazar-Bangladesh). Children under 5 years have the highest death rates of all refugees. It is thought that malnutrition related morbidity and mortality is preventable. Assessment of nutritional status with anthropometry is practical and acceptable on an international level. Furthermore, research suggested that the ability to monitor a population over time helps identify the effectiveness of nutrition interventions. Baseline prevalence data and monitoring malnutrition are necessary to evaluate and implement adequate program support to Myanmar refugee's children's in Bangladesh. An estimated, a quarter of million refugee have been forced to flee Myanmar due to conflict and burning of villages without essentials. Nearly 340,000 Rohingya children are living in squalid conditions in Bangladesh camps where they lack enough food, clean water and health care facilities. Desperate living conditions and waterborne diseases are threatening for children's 6 to 59 month. High levels of severe acute malnutrition among young children have been found in the camps. It is estimated, one in every five children under the age of five is suffering from acute malnutrition and about 14,500 suffer severe acute malnutrition. Bangladesh is a developing country with huge population. It is very difficult to host this Rohingya population for a country like Bangladesh. As a result, Rohingyas and their children are not having basic rights to live their livelihood. At the Cox's Bazar in Bangladesh refugee's camps nutrition assessment are not conducted regularly; however health agencies provide monthly growth monitoring. Acute and chronic malnutrition is very high in the largest population in the new settlement Cox's Bazar refugee camp.

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Cocoa supplementation has beneficial effects on plasma High Density Lipoproteins cholesterol (HDLc) and triglyceride in central obesity male with atherogenic dyslipidemia, but no significant changes on oxidized Low Density Lipoproteins (LDL)

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Background: Central obesity related to atherogenic dyslipidemia which was characterized by high serum triglycerides, increased sLDL and decreased HDLc. Cocoa powder rich in polyphenols as antioxidant sources reduced atherosclerosis risk.

Objective: To investigate the influence of cocoa supplementation to atherogenic dyslipidemia in central obesity male subjects by assessing lipid profiles and oxidised LDL.

Method: 34 healthy males (aged >25-55 years, waist >90 cm) were recruited to participate in an 8-week randomized, paralel and double-blind study: 17 subjects received 4-gram cocoa in capsules and the other 17 subjects received placebo. Both groups had 15% energy restriction and fat <25% of total energy, no changes in activities.

Results: After 8 weeks, no changes in total cholesterol and triglycerides in both groups ($p > 0.05$). LDLc level decreased significantly in both groups (cocoa $p=0.003$ vs. placebo $p=0.004$). HDLc level increased significantly only in cocoa group ($p < 0.05$) and oxidized LDL level showed no changes in both groups ($p > 0.05$). If we compared atherogenic cocoa group with atherogenic placebo group ($n=17$), we found no changes in total cholesterol in both groups ($p > 0.05$), but higher reduction in triglyceride showed in atherogenic cocoa group $p=0,043$). HDLc level increased significantly only in atherogenic cocoa group ($p=0.011$), no changes in atherogenic placebo group ($p=0.575$). Oxidized LDL level showed no changes in both atherogenic groups ($p > 0.05$).

Conclusion: Cocoa supplementation on central obesity male within a hypocaloric and low-fat diet increased HDLc in dyslipidemia and atherogenic dyslipidemia, higher reduction in triglyceride in atherogenic dyslipidemia then placebo. No significant changes showed in oxidized LDL level in both dyslipidemia and atherogenic dyslipidemia.

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Body fat percentage, BMI and skinfold thickness among medical students in Sabah, Malaysia

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Background: Nutrition is a critical part of human health and development. However, overweight and obesity prevalence are rising worldwide, with associated diabetes, cardiovascular diseases and other diet-related conditions. Body Mass Index (BMI) is an index of weight-for-height that is commonly used to classify overweight and obesity in adults. The skin-fold measurement method is the most widely used body fat composition testing method for assessing body fat percentage.

Objective: The objective of the study was to measure the body weight and body fat of medical students of Sabah, Malaysia by using different types of nutritional assessment methods.

Methodology: A cross-sectional study among the selected 2nd year medical students of School of Medicine, University Malaysia Sabah was conducted using different types of nutritional assessment.

Findings & Discussion: The average BMI and mean body fat percentage measured by body fat analyzer of the respondents were 21.95 ± 0.59 kg/m² and $16.98 \pm 1.37\%$, respectively. The mean body fat percentages calculated by different skinfold thickness were: Abdominal- $24.13 \pm 1.11\%$, supra-iliac- $20.35 \pm 1.35\%$, subscapular- $21.83 \pm 1.01\%$ and alternative three-site $19.46 \pm 1.02\%$. In reliability testing, results are variable between male and female-internal consistency of the alternative three-sites skinfold calculation for body fat percentage showed male (excellent) and female (acceptable) and skinfold reading for body fat percentage for triceps, abdomen, sub-scapular and supra-iliac showed male (good) and female (poor to acceptable). According to the Malaysia Obesity Classification, 10 students' BMI was classified into underweight (male 10%, female 21%), normal weight (male 57%, female 63%), pre-obese/overweight (male 24%, female 11%) and obese (male 10%, female 5%).

Conclusion: Our findings could be used in obesity awareness promotion among Malaysian youth. However, further investigation about the determinants of obesity and body fat, including age, sex, race, nutrition and changes over time is needed.

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On the prevention of obesity and a philosophy for healthy living; The Aruba project

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Obesity as a disease has reached historical, maximal peak values, with nearly one-third of the world's population suffering from obesity and obesity-related conditions. We are now witnessing the impact of this epidemic upon the global health status, with non-communicable diseases on the rise. We have also witnessed the shortcomings and failures of past actions taken when obesity is already present. In Aruba, a prevalence of 36% of childhood obesity was found in 2005, with a tendency to increase as compared to the data prior to 2000. Actions to improve healthy eating habits, reduce sedentary lifestyle and enable a social environment to prevent obesity were carried out in a systematic plan in the period from 2009-2013 and a positive change was observed in the incidence of obesity compatible with complete deceleration of the epidemic and improvement in health indicators. Through the lessons learned from the project as executed in Aruba, we demonstrate how a specific road map can be developed, implemented and highly successful in addressing the obesity epidemic. The roadmap includes the following steps: A population base-line study, an awareness campaign, an approved action plan by the stakeholders and government, changes in infrastructure, the creation of an institute to promote a healthy lifestyle, an introduction to the exercise is medicine initiative and a study of progress with ongoing monitoring.

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