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# Kangaroo Mother Care: A Buffer

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**Background:** Every year, around 20 million infantile populace is born weighing less than 2.5kg – over 96% of these are belong to developing states. These low-birth-weight (LBW) juvenile are at greater peril of early growth retardation, developmental delays, infectious disease, and death during infancy and childhood. Literature proposes that kangaroo mother care, which is the practice of skin-to-skin contact between parent and infant, is an effective and safe substitute to conventional neonatal care and It reduces mortality and morbidity in LBW infants.

**Objective:** To identify the correct method and positive outcomes of kangaroo mother care for both parents and infant.

**Methodology:** The literature review was done in February 2019 from various online databases such as PUBMED, CINAHL, MEDLINE and Google Scholar, and other relevant research articles published from 2013 to 2019.

**Result:** Kangaroo mother care is a practice of holding a baby that involves skin-to-skin contact. The baby, who is naked except for a diaper and a piece of cloth covering his or her back, is placed in an upright position against a parent's bare chest. The benefits of this mutual care bond in babies embrace temperature regulation, decreased episodes of periodic breathing, positive touch, weight gain, deeper sleep state, reduced anxiety and better infant self-regulation capabilities. And for parents, it leads to parental attachment, improving parent confidence in a stressful NICU environment, decreased parental stress levels, increased lactation from mothers, and increased parent responsiveness to their baby.

**Recommendation:** Touch is critical to an infant's neurological and physiological development. It is one of the best ways for parents to bond with their baby while in the NICU (and even after the baby is discharged to home) hence, Skin-to-skin care should be promoted and provided to all hemodynamically stable infants, and also offered to families of infants receiving palliative care within the NICU.

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# Peer Formative Assessment in Intentional Round Competency

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The current assessment of the nursing competencies still follows the traditional summative assessments. As a result, it became a frustrating experience for nurses, because of it interferes with their daily patient care. In addition, continuous summative assessment by the auditors put the nurses in a stressful learning environment, especially if the feedback is lacking.

There is evidence that peer formative assessment increases the adherence to guidelines in the healthcare organizations. The assessor and assessee will be using protocols to correct, guide, give or receive constructive feedback.

Effective feedback has many elements including creating a positive environment and acceptance among peers to assess each other. Introducing this type of assessment will help nurses to use assessment as a learning opportunity.

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# Ebola Epidemic and its Effect on Public Health

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Ebola virus disease (EVD) has mostly affected economically deprived countries as limited resources adversely affect a country's infrastructure and administration. Probing into the factors that led to the widespread outbreak, setting forth plans to counter EVD cases in developing countries, and devising definitive measures to limit the spread of the disease are essential steps that must be immediately taken.

This is a summary of the pathogenesis of EVD and the factors that led to its spread. Also highlight interventions employed by certain countries that have successfully limited the epidemic, and add a few preventive measures after studying the current data. According to the available data, barriers to prevent and control the disease in affected countries include irresolute and disorganized health systems, substandard sanitary conditions, poor personal hygiene practices, and false beliefs and stigma related to EVD. The public health sector along with the respective chief authorities in developing countries must devise strategies, keeping the available resources in mind, to deal with the outbreak before it occurs. As a first step, communities should be educated on EVD's symptoms, history, mode of transmission, and methods of protection, including the importance of personal hygiene practices, via seminars, newspapers, and other social media. A popular opinion leader (POL) giving this information would further help to remove the misconception about the nature of the disease and indirectly improve the quality of life of affected patients and their families.

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# Elderly Relationship to Depression and Anxiety

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Many elderly people suffer from depression, which affects the adaptation of the elderly to the change in lifestyle. The impact of depression may be reflected on eating, so elderly people eat more to compensate for the emotional vacuum in their lives, and of course this may lead to obesity. Abstinence may also be caused by depression. Helping elderly family members to create an active social life helps a lot to get rid of depression.

Social isolation and emotional emptiness in the elderly also lead to anxiety, which often leads to anorexia. It also causes anxiety in some hormonal changes that result in the lack of secretion of digestive juices in the stomach and intestines and thus lose the body's ability to fully absorb nutrients. On the other hand, medications used to treat anxiety often lead to anorexia. Therefore, eating an elderly meal with his peers or family members prevents many of these problem.



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# Nutritional Status and Knowledge and Their Relationship with Performance in Athletes in the United Arab Emirates

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The objectives of this study are to assess the level of nutritional knowledge, dietary habits and nutritional status among adolescent athletes and their impact on sports performance.

A cross-sectional study conducted in 59 Athletes recruited from Al Jazira Academic sports clubs in the United Arab Emirates in which, Nutrition Knowledge, practices and habits were evaluated by questionnaire, nutritional status and physical performance was assessed. SPSS software v.20 was used to perform statistical analyses. Food consumption per week was separated into 1) Cereals, legumes, nuts and grains ( $14.11 \pm 4.56$ ), 2) Milk, dairy products ( $10.00 \pm 3.32$ ), 3) Meat, fish ( $5.93 \pm 2.28$ ), 4) Fruits and vegetables, ( $11.11 \pm 4.55$ ), 5) Snack ( $7.91 \pm 3.23$ ) Beverages ( $8.25 \pm 2.55$ ). The significant relationship was found between mothers education level and meat Group ( $P\text{-value} < 0.01$ ), Snack and weight (kg) ( $P\text{-value} < 0.03$ ), athletes consumed Snack and skinfold sub-scapular ( $P\text{-value} = 0.04$ ), milk and bone mineral content (g) ( $P\text{-value} = 0.04$ ), cereal and hemoglobin (mg/dl) ( $P\text{-value} = 0.01$ ), and snack and mean platelet volume ( $P\text{-value} = 0.02$ ), knowledge score was ( $80.73 \pm 8.81$ ), score for self efficiency ( $18.88 \pm 3.66$ ) and attitude ( $21.30 \pm 1.88$ ). The majority of the adolescent athletes considered in this study fell into the normal weight and height category according to the anthropometric data.

This finding implies that the athletes are considered to have an excess of body fat stores, anaemia, low blood results and less skinfold then it is desirable. A quite good dietary knowledge but limited healthy dietary practices and limited ability to change were observed. This is the first research done to investigate these points in the UAE. . SPSS software v.20 was used to perform statistical analyses.

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# Nutritional Support in Neonate

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Nutrition Support has become more than just the provision of energy substrates, amino acid building blocks, and maintenance of vitamin and mineral concentrations. It has been proven that optimal nutrition care of preterm infant could improve outcomes in children and enhance the immune response to a variety of stressors in critically ill Neonate patients. The administration of Nutrition support may have survival benefit. When the gastrointestinal tract is compromised, by using the parenteral route (parenteral nutrition (PN)).

In the last few decades, there has been a significant increase in survival rate of preterm infants, especially very low birth weight infants. The goal of Nutrition support in neonates are to maintain the development and growth while avoiding nutrition related complications. It is important to mention that the nutrients requirements should be adjusted according to the actual patient's age and weight.

Parenteral nutrition (PN) is indicated in infants when enteral feeding rout is impossible, inadequate or hazardous. Indeed Enteral nutrition support should be gradually introduced and should replace Parenteral nutrition support as quality as possible in order to minimize the side effects from prolong exposure to PN.

We will provide proposed advisable range of Nutrients requirements, these recommendations are based on the considered review of available scientific reports on the subject, expert consensus for which the available scientific data are considered in adequate.

## REFERENCES

American Society of Parenteral Enteral Nutrition (ASPEN) Board of direction. Clinical guidelines for the use of parenteral and enteral nutrition in adult and pediatrics. 2016.



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# Childhood Obesity Group Teaching

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The COGT, CHILDHOOD OBESITY GROUP TEACHING, is a new teaching program launch in our clinics focus on VLCD (very low carb diet), the aim of it is to monitor weight and body mass index of overweight and obese children when the current practice changed.

Program length was 12 weeks, at on visit every month, all subjects selected on clinic visit, after taking parents' consent. Subjects were overweight or obese on clinic visit.

Complete nutrition assessment done on clinic visit and before joining the COGT, participants splitted into 2 groups in similar age groups and sex.

On COGT day, following measurement taking;

Weight and height

Blood sample; CBC, iron profile, vitamin D, lipid profile, cortisol, TSH, HbA1C

All subjects on first visit received folder with program flayer, notebook, pencils, food weight scale, personal sheet to fill up weekly weight and program monthly topics.

Every COGT visit, children and adolescent actively participate in a group discussion through power point visual learning presentations, video games, group worksheet and discussion.

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# Nutrition Role in Prevention and Cure Diseases

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Starting with some statistics from the CDC (Centers for Disease Control and Prevention) which reports that chronic diseases are leading causes of death and disability, 70% of annual deaths are due to chronic diseases. These preventable conditions not only compromise quality of life, they add to rising health care costs (75% of the healthcare cost).

The good news is that we have the power to help prevent chronic disease, as making positive diet and lifestyle changes can help reduce risk. Eating healthy foods, getting enough exercise, and refraining from tobacco and excessive alcohol use confer numerous health benefits; including possibly preventing the onset of chronic diseases.

A study from the Departments of Epidemiology and Nutrition in Harvard school of public health was done to assess the epidemiological evidence on diet and cancer and make public health recommendations. They found that:

- Overweight/obesity increases the risk for cancers of the oesophagus (adenocarcinoma), colorectal, breast (postmenopausal), endometrium and kidney and it was recommended that the body weight should be maintained in the body mass index range of 18.5-25 kg/m<sup>2</sup>, and weight gain in adulthood avoided.
- High Salt intake may possibly lead to stomach cancer; that's why it is highly recommended that we watch out our consumption of salt preserved foods.
- Scalding Hot drinks and foods may possibly increase the risk of oral cavity, pharynx and oesophagus cancer; hence it's recommended that the temperature of our intakes should always be moderate.
- Physical activity, the main determinant of energy expenditure, reduces the risk for colorectal cancer and reduces the risk for breast cancer; regular physical activity is highly advised.

Furthermore, there are recent findings that food-based guidelines are reflected in specific dietary approaches to improve cardiovascular risk factors, such as the dietary approaches to stop hypertension diet and therapeutic Lifestyle changes, which have shown effectively, benefit hypertension and hypercholesterolemia, respectively. These diets, therefore, significantly reduce coronary heart disease risk and are effective in decreasing cardiovascular morbidity and mortality risk.

To conclude, a healthy lifestyle and a good balanced diet are the key of healthy living. Medical nutrition therapy plays a key role not only in curing diseases, but also in preventing it.

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# Impact of Parents and Peers Smoking on Tobacco Consumption Behavior of University Students

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**Introduction:** In the United Arab Emirates, smoking prevalence has increased in both sexes, especially among young adults. Various factors have led to this catastrophe; examples include coverage on TV and social media, as well as market availability. One major influence is smoking by parents and peers. A lot of students may start smoking because of the behavior of their family and friends, and therefore it is necessary to quantify adverse contributions.

The aim of this project was to study to what degree parents and peers smoking habits may impact on smoking behavior of students at the University of Sharjah.

**Methods:** This cross-sectional observational study with a non-probability convenient type of sampling, was conducted with university students aged 18 to 23. Information was collected using a self-administered questionnaire, comprising 23 questions, developed by ourselves.

**Results:** A total of 400 University of Sharjah students (50% males and 50% females) were included. Some 15.8% of the smoking students had smoking parents, and 17.1% of them had smoking peers. The respective figures were 22.2% and 21.7% for males and 10% and 7.8% for females.

**Conclusions:** Peers had a stronger impact than parents and both parents and peers had greater influence on males than on females. Interestingly, almost 80% of the smoking students did not have smoking parents or peers, which leaves the question unanswered of why they started smoking in the first place. Actions at a societal level should be taken into consideration to prevent smoking and thus help create a non-smoking generation.

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# Prevalence of Bronchial Asthma and its Association with Obesity and Overweight among Adolescents in Dubai, UAE

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**Background:** Globally, epidemiological data estimate that nearly 300 million people worldwide suffer from asthma with expectation that this number will grow by more than 100 million by 2025.

**Objectives:** The aim of this study was to gain a better knowledge about the magnitude as well as the association of bronchial asthma with some socio-demographic characteristics, overweight and obesity among preparatory and secondary school students in Dubai.

**Methodology:** A cross sectional study was done among students of preparatory and secondary schools (private and governmental schools) in Dubai. Using a stratified random sample technique, the study sample included 1639 children.

**Results:** It was brought out that 16.7% of the study students have had an asthma attack at some point of time with ever complaining of chest wheeze where near three fourths of them complained of this wheeze during the past 12 months prior to the research. Emirati students and those in governmental schools were more affected with bronchial asthma. Obesity and overweight expressed as BMI were among factors associated with increase the prevalence of asthma among school students in preparatory and secondary schools abreast with family history of asthma and being male.

**Conclusion:** Body weight, family history of bronchial asthma contribute significantly in the development of bronchial asthma.

**Recommendations:** Developing a national asthma surveillance system for screening of bronchial asthma among school children, launching a national asthma public education campaigns, targeting childhood overweight and obesity and launching a prospective study with a large sample size for further investigation of the relation-ship between asthma and childhood overweight and obesity.

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# Language Abilities in Children Born to Mother with Diabetes: A Meta-analysis

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The aim of the present study is to investigate the association between maternal diabetes and the language development of offspring. Prospective observational studies addressing the language development of offspring born to mothers with diabetes as outcome was extracted from MEDLINE/PubMed, EMBASE and PsycINFO databases.

Only observational studies that meet the following criteria were included in the study: 1) prespecified maternal diabetes definition, 2) clearly defined evaluation of speech and language performance (e.g., development of verbal and gesture expression, fluency, speech comprehension), 3) reported the relative risk (RR), or odds ratio (OR) and 95% confidence intervals (95% CIs).

Analysis of data included calculating the pooled relative risk (RR) estimates and 95% confidence intervals (CIs) using the random-effects model among cohort studies and pooled odd ratio and 95% CI for case studies. Statistical heterogeneity was assessed using I<sup>2</sup> and sensitivity analysis. Publication bias was evaluated by visual inspection of funnel plots and Egger's test. Findings show that language abilities is reduced in children born to mother with maternal diabetes. Further studies examining a range of language subdomains are needed to fully understand the wide impact of diabetes on language development in this population.

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# The Association between Frequency of Family Meals and Nutritional Status of Adolescent Girls in Saudi Arabia

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**Background and Aims:** Benefit of eating family meal is associated with healthful eating patterns, social interaction and wellbeing.

The study aims to determine the association between family meal frequency and diet quality, maternal feeding practices and meal environment among middle school adolescents.

**Methods:** a cross sectional study using a multi-stage sampling method design to targeted 594 families at middle school in Al-Ahsa Governorate - Saudi Arabia. Participants were adolescent girls aged 12 to 14 years and their mothers. Data on socio-demographic, family meal frequency, 24-h dietary recalls, maternal feeding practices, meal environment, physical activity and anthropometric measures collected at schools.

**Results:** family meal frequency categorized to represent two levels of family meals ( $<7$  times/week, and  $\geq 7$  times/week). Both groups had normal BMI, 66% of  $\geq 7$  times/week group had significant moderate physical activity ( $p < 0.04$ ). The multiple linear regression analysis revealed eating more family meals was associated with increased of fruit ( $OR = 1.65$ ; 95%  $CI = 1.038-2.751$ ), vegetable ( $OR = 0.93$ ; 95%  $CI = 0.79-1.09$ ) intake, positive meal environment ( $OR = 0.90$ ; 95%  $CI = 0.87-0.96$ ), and positive maternal feeding practices ( $OR = 0.97$ ; 95%  $CI = 0.95-0.99$ ).

**Conclusions:** family meals have the potential contribution to adolescent health, improving the quality of family meals can help young people to across the challenging period of adolescence.



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# Recent Trends of Vegan Productions

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Due to increased consumer interest in vegan diets, and widespread of new markets for vegan food manufacturers.

The aim of the present study was to shed light on the most important motives to adopt the vegan diet, the main types of vegetarian diets, its health effects, the most important vegan products scattered in the markets and certification and labeling of vegan and vegetarian diets.

**Key words:** Soy food, Vegan dairy, Edible algae, Kimchi microbiome, Mycoprotein, Cultured Meat

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# Nutritional Care for the Child

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In many ways, children with developmental disabilities are similar to children without developmental disabilities. All children require good nutrition to grow and develop. As a group, however, children with developmental disabilities have more frequent problems that may alter their growth, diet, feeding and eating behaviors, and bowel and fluid management. When these problems are not adequately addressed, a child may experience more infections and illness and spend fewer days in school or therapy, while health care costs for the family increase. These feeding and nutrition-related problems are also more likely to be chronic over time.

The goal of this presentation is to provide a guide that covers the essential information needed for nutrition management of children with development disabilities. We hope this guide will inspire a comprehensive, interdisciplinary approach to feeding management and nutritional needs of children with developmental disabilities.

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# Role of Specialized Nutrition

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Malnutrition is alteration of body composition in which deficiencies of macronutrients and micronutrients result in reduced body cell mass, organ dysfunction, and normal serum chemistry values.

Therefore, reduced nutrient intake is common in patients after hospitalization, contributing to increased risk of readmission and mortality.

According to the Canadian Malnutrition Task Force report, one-third of patients discharged to home are malnourished.

In a review of 36 randomized controlled trials including 2790 older patients, the use of high protein oral nutrition support reduces complications and readmissions with no impact on normal food intake.

Older adults have shown evidence of anabolic resistance, where greater amounts of protein are required to stimulate muscle protein synthesis, and response is variable. Thus, the recommended daily amount of protein is greater for older people.

The purpose of this lecture is to present a systemic review of the available evidence-based literature concerning the updated guideline for the role of specialized nutrition in malnourished elderly patients.

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# Screening of Refractive Error

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**Introduction:** Uncorrected refractive errors is an important cause of visual impairment in children. Refractive errors can be easily detected and corrected by the use of glasses saving many years of blindness.

**Objectives:** Determine the prevalence of refractive errors in school children comparing governmental and non-governmental schools.

**Patients and methods:** This study was a school-based cross-sectional comparative study, conducted in Tanta city, Gharbia governorate in the middle of the Delta region, Egypt from January and April 2016. The study included 1075 students from Two groups of primary schools private and governmental. Sociodemographic data were collected for all student and full ophthalmic examination were done.

**Results:** The prevalence of refractive error in our study was 22.1% of all students, only 35.7% of RE students wore glasses before our screening and suspected amblyopia cases who were 31.1% of RE students (6.9% of all students). Distribution of different types of refractive error showed that astigmatism most common followed by myopia and lastly hyperopia (68.1%, 17.6%, and 14.3% respectively).

**Conclusion:** About one fourth of the students had refractive error with high suspected amblyopia. Most of refractive error cases especially in governmental school were first detected during our study.

## RECOMMENDATION

Based on our finding we recommend the following:

- Good implementation and monitoring of visual school screening program at least twice during the primary school period.
- Raising parent and community awareness about the importance of visual correction to promote a better quality of life for the growing child.
- Governmental support for providing low-cost spectacles and school support to encourage children to wear their glasses.

## ACKNOWLEDGEMENT

I would like to acknowledge the cooperation made by the schools staff during conduct of our study. I also acknowledge and thank all the participants of my study for their valuable time.

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# Awareness about Consanguineous

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**Background:** Consanguineous marriages occur in most of populations, with different percentages among all marriages.

This study was done to assess the prevalence, knowledge and attitude of students towards consanguineous marriages.

**Methodology:** This study was a descriptive cross-sectional one conducted in Faculty of Medicine, Tanta University, Egypt with a sample size 750 student.

**Results:** More than two-thirds of the participants were females, the majority were single and Muslim (99.20 and 98.10 respectively). A significantly higher knowledge score was present among females and among urban. Married participants have significant positive attitude compared to non-married one. Participants of Fathers with high or intermediate educational level has significantly positive attitude. The prevalence (frequency) of consanguineous parents was 12% and 2.8% of the participants had brother / sister with consanguineous related congenital anomalies. The prevalence of consanguineous marriage among the married sisters or brothers of the participants was 25%. Most of the participants (82%) prefer offering information to couples about consanguineous before marriage, better provided in the following order; by clinical geneticist, mass media, gynecologist or general practitioner.

**Conclusion:** The prevalence of consanguineous marriage is still high. The level of knowledge is satisfactory but still not elevated and attitude for those accepting consanguineous marriage still approximate to half of participants. Premarital health education programs to improve the knowledge level of the youth couples on consanguineous marriages; better by physicians in the medical health centers or through mass media.

**Recommendation:** Comparative study between medical and non-medical students. Community based study to assess the consanguineous marriage, prevalence, knowledge and attitude.

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# Coffee: Friend or Foe for Menopausal Women?

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**Objectives:** During menopause, Women may have different symptoms and an increased risk of chronic diseases due to hormonal changes. There is controversy about the relationship between coffee intake and menopausal health. This research reviews major health concerns about coffee intake and its relation to menopause.

**Method:** Literature review of studies published between 2009 and 2019 was conducted using the PubMed and Google scholar database.

**Results:** Coffee is source of polyphenols (chlorogenic acid, caffeic acid, and flavonoids) which are potent antioxidants and anticarcinogenic which may play a preventive role in chronic diseases. The study design of most literatures in this field was cross sectional which limits to make a strong conclusion for the benefits or risk of coffee intake in menopause. The studies had shown mixed results about the association between coffee intake and bone density, hypertension, obesity, cancer and diabetes in menopausal women. There is limited research on coffee intake and its effects on menopausal symptoms, however, studies had found that high caffeine intake is associated with a greater vasomotor symptoms. Coffee is a source of lignans which are classified as phytoestrogen. It also contains caffeine that is metabolized by cytochrome p450 1A2 which also metabolizes estrogen. It competes for the same enzyme, postmenopausal estrogen therapy and caffeine intake can induce different reactions within the body.

**Conclusion:** Coffee intake in moderation seems to be safe during menopause. More longitudinal studies should be conducted to evaluate the association between coffee intake and menopause health aspects. The studies also should investigate which components and what the dosage of coffee that can affect menopause health markers.



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# Foods and Nutrient Intakes from School Canteens and Markets nearby Schools and its Proportion from Total Daily Intakes among Students Aged 14-18 Years in Amman

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The objectives of this study were to determine the food intake in the schools purchased from the canteens or from markets nearby schools; to find out the percent intake of energy and macro and micronutrients from canteens and markets nearby the schools as a percent of total energy and nutrient intakes; and to evaluate the association between dietary intake of energy and nutrients eaten from school canteens and markets nearby the school and body weight status. This cross-sectional survey consisted of a convenient sample of 398 students recruited from Amman/ Jordan. The age of subjects ranged between 14-18 years. Socio-demographic data and three days food record were self-reported. Students body weight and height were also measured. There were significant differences between male and female students regarding the intake of the following macro and micronutrients consumed at school canteens: total carbohydrate (g), saturated fatty acid calories (kcal), sugar (g), fiber (g), saturated fat (g), omega-3 fatty acids (g), and vitamin D ( $\mu\text{g}$ ) which were significantly higher in male students ( $124.7 \pm 5.9$ ,  $97.4 \pm 4.4$ ,  $42.7 \pm 2.6$ ,  $6.4 \pm 0.3$ ,  $10.8 \pm 0.5$ ,  $0.35 \pm 0.0$ , and  $0.05 \pm 0.05$ , respectively,  $P\text{-value} \leq 0.05$ ) as compared with female students ( $106.2 \pm 5.5$ ,  $84.4 \pm 4.8$ ,  $35.3 \pm 2.3$ ,  $5.7 \pm 0.5$ ,  $9.4 \pm 0.5$ ,  $0.07 \pm 0.2$ , and  $0.05 \pm 0.05$ ). In regard to food groups consumed from markets nearby schools there were significant differences between males and females in the intake of, sweets (g), soft drinks (ml) and milk/milk substitutes (ml) which were significantly higher ( $P \leq 0.05$ ) in females ( $3.9 \pm 1.0$ ,  $4.7 \pm 1.6$ ,  $27.8 \pm 4.7$  respectively) as compared with male students ( $2.7 \pm 0.5$ ,  $0.4 \pm 0.3$ ,  $20.2 \pm 4.2$  respectively). Whereas sugar sweetened drinks (ml), and crackers/snacks (g), were significantly higher ( $P \leq 0.05$ ) in males ( $7.1 \pm 2.1$  and  $24.6 \pm 2.6$  respectively), as compared with female students ( $0.6 \pm 0.6$  and  $19.6 \pm 2.0$  respectively). The results did not show any significant relationship between macro- and micronutrients and BMI ( $P\text{-value} > 0.05$ ) except for sugar, fat, vitamin E, and calcium intakes from school canteens. It is concluded that the contribution of foods from canteens and markets nearby schools was high, with high content of fats, salt, and sugar, implying that there is a vital need to establish a plan of action to fighting malnutrition in school environment in Jordan.

**Key words:** School canteens, Markets nearby school, Macronutrients, Micronutrients, Jordanian Adolescents

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# Measuring the Level of Knowledge about Breast Feeding for Parents Attending Primary Health Care at AL-Dhahira Governorate, Oman

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**Background:** Breastfeeding (BF) is the natural way for infants' nutrition, it provides the ideal nutrients they need for healthy development and growth. Both the baby and the mother benefit from BF on the short- and long-terms as noted by several studies. The prevalence of exclusive breastfeeding during the first 6 months of the newborn in Oman only 23%.

**Objective:** To assess the level of knowledge about BF with its determinants among a sample of parents attending primary health centers (PHC) in Al Dhahira Governorate.

**Method:** This cross-sectional study was conducted at PHCs. Simple random sampling was adopted. We involved ten PHCs which have dietitian, 20 clients were randomly selected using a set of random numbers from each PHC. The participants were approached in a pediatric clinic by face-to-face interviews by a dietitian; explained the purpose of the study to the mothers or fathers and verbal consent was taken before the interview. By means of a dietitian-filling questionnaire. The questionnaire was divided into two sections in analysis 1- general knowledge about breastfeeding like the benefits of breastfeeding, 2- the knowledge about practicing the breastfeeding. Level of knowledge categories are: (poor ( $< 12.5$ ), regular ( $12.5 - 17.5$ ) and high ( $17.5$ )).

**Results:** about 140 participants (56 males, 84 females) in the study, the average age of participants was 31 years. The level of knowledge about breastfeeding was regular (mean score of 15.2 out of 25 scores), and it was observed that knowledge was influenced by gender, previous education about breastfeeding, and parity. There is a significant difference in knowledge level between women (average score  $16.79 \pm 3.56$ ) and men (average score of  $11.68 \pm 4.26$ ) ( $t=0.001$ ,  $p<0.05$ ). Participant who have previous an education session about BF, significantly know more how to practice the BF ( $t=0.00$ ,  $p<0.05$ ). The parity in the study sample is 2-3 per parent. Parity has a significant correlation with the level of knowledge mainly practical knowledge ( $t=0.09$ ,  $p<0.01$ ).

**Conclusion:** The level of Breastfeeding knowledge is regular. Moreover, participants have less score on practical knowledge than general knowledge questions. Women, and who receive previous education about BF have higher knowledge about BF.

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# Post Menopausal Dietary Management

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Menopause brings a multitude of changes for women. It's a time when she needs to prepare her body for a hormonal roller coaster ride and protect herself against various health risks—that means making positive, healthy lifestyle decisions.

Menopause is defined as the cessation of menstruation for 12 consecutive months. This marks the end of a woman's reproductive years. It occurs earlier in women who use tobacco, are heavy smokers, and those who live at a higher altitude.

Gradually declining estrogen levels begin as early as in the 30's – this is referred to as peri-menopause.

Menopause (also known as the "Change of life" or climacteric) is a stage of the human female reproductive cycle that occurs as the ovaries stop producing estrogen, causing the reproductive system to gradually shut down. Women who have a hysterectomy will experience instant menopause, whatever their age.

At the menopause the levels of estrogen drop to around 40% of the levels that are produced during a woman's reproductive life, while progesterone drops to only about one per cent. Of immediate concern, during the time of hormonal fluctuations, are symptoms such as hot flashes, sleeplessness, dry skin, rapid heart beat, mood swings, urinary incontinence, depression, hair loss, decreased libido and vaginal dryness. All of these have a foundation in hormonal shifts. And later on, the most important health issues are the increased risks of osteoporosis and an increased risk of heart disease. Symptoms can vary in severity; many women notice no symptoms other than a gradual cessation of their periods.

Some of the chronic symptoms of menopause are coronary artery diseases, osteoporosis and genital cancers like cancer of uterus, breast and ovaries. They may also have chronic urinary tract infection and endocrine disorders like thyroid and parathyroid disorders and metabolic disorders like diabetes mellitus.

As women approach menopause, they might use HRT as intervention therapy to prevent menopausal problems. Some of the benefits of HRT are: Reducing hot flashes, decreasing vaginal dryness, slowing bone loss, preventing skin atrophy (wrinkling and dryness), decreasing mood swings and depression. For some women, hormone therapy may increase their chance of getting: Blood clots, heart attacks, strokes, breast cancer, gall bladder disease and post-menopausal bleeding.

Staying healthy after menopause – Alternatives to HRT for menopause: These steps are more likely to keep a woman healthy than just taking hormones.

- Being active and getting more exercise at least 30 minutes on most days of the week i.e. weight-bearing exercises, like walking, running, cycling, stair climbing, or dancing etc. Doing yoga helps in keeping body supple, relaxed along with mental relaxation.
- Avoid smoking
- Eating healthy.
- Eating more of whole grain products, vegetables, and fruits.

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# Lifestyle Intervention for Prevention of Gestational Diabetes Mellitus among High Risk Population: Randomized Controlled Trial

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**Purpose & Relevance:** Gestational diabetes mellitus (GDM) is affecting 16.4% of women globally and 36.6 % in this region. The increasing prevalence of overweight, obesity and diabetes due to poor lifestyle habits in the UAE contributes towards the risk of GDM in pregnant women, indicating a need to explore the effect of lifestyle intervention through positive changes in dietary and physical activity habits on the risk of GDM in high-risk pregnant women in this region. Lack of consistency in the findings of lifestyle intervention on preventing risk of GDM and absence of such data from this region encouraged us to study the effect of moderate intensity lifestyle intervention on the high-risk population in this region.

**Participants:** The study includes 54 pregnant females ( $\leq 12$  weeks of gestation), aged between 18 to 45 years and singleton pregnancy who meet  $\geq 2$  risk factors for GDM. The 12- week Lifestyle intervention program and was delivered in 4 sessions (2 individual, 2 telephonic) and supported by mobile application.

**Methods:** 54 participants were randomly allocated to the intervention group ( $n=26$ ) or the standard care group ( $n=28$ ), matched in age and BMI. Each subject in the intervention group received individualized counseling on diet, physical activity, and behavior modification from registered dietitian, whilst control group received standard antenatal care. The diagnosis of GDM was based on a 75-g, 2-h oral glucose tolerance test at 24–28 weeks of gestation.

**Results:** The average age of the participants was  $31 \pm 5$  years and BMI was  $28.3 \pm 4.5$  kg/m<sup>2</sup>. The incidence of GDM in high-risk pregnant women in the UAE was 39%, (intervention group=31% and standard care group= 47%). The risk of developing GDM on lifestyle intervention was 33% lesser than in standard usual care (RR=0.67, OR=0.51).

**Conclusions:** A moderate individualized lifestyle intervention could possibly reduce the incidence of GDM in high-risk pregnant women in the UAE. These findings may have major health impact on health of mother and child but also be cost effective in public health.

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# Malnutrition in Libyan Hospitals

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**Background & Aims:** Malnutrition in hospital is a little regarded and underestimated disease in some countries like Libya. The aim of this study was to ascertain the prevalence of malnutrition in a Libyan hospital.

**Methods:** A cohort of 328 patients of the clinic and polyclinic of the university hospital in Tripoli was examined for nutritional deficiency. Furthermore, laboratory parameters as well as pre-existing illnesses were recorded and analyzed. Consequently, risk factors for malnutrition could be detected.

**Results:** Malnutrition was diagnosed in 23.7 % of patients according to Nutritional Risk Screening 2002. The correlation between malnutrition and smoking was not confirmed. At last, the four parameters of the initial screening were risk factors for malnutrition: BMI lower 20,5kg/m<sup>2</sup>, diminished food intake in the preceding week, involuntary weight loss during the last three months and the presence of a severe disease. The parameters sex and age showed no influence on nutritional risk.

**Conclusions:** Every fourth patient was exposed to a nutritional risk. The correlation between malignant disease as well as higher age and malnutrition was remarkable.

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# The Impact of Dietary Polyphen

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Moringa Oleifera (MO) is a highly valued plant that is mostly cultivated in India and Asia and belonging to the Moringaceae family (1). The common names of MO are the drumstick tree, horseradish tree and ben oil tree, or benzoil tree (2). Whereas Saudi Arabia is one of the main native distribution areas of MO in the Middle East, while mainly distributed in Alhasa area eastern of Saudi Arabia (3). Several studies have expounded the beneficial effects in humans, and all parts of MO tree including leaves, seeds, bark, roots, sap, and flowers are used as medicine and food products (4). Furthermore, the leaves are the most used parts of the MO tree due to rich in vitamins, carotenoids, polyphenols, phenolic acids, flavonoids, alkaloids, glucose inolates, isothiocyanates, tannins and saponins also contain a profile of important trace elements, good source of proteins and amino acid. MO tree is a "miracle tree" or a "wonder tree" of significant socioeconomic importance due to several nutritional, pharmacological and industrial applications (5).

The aim of this study was evaluated the antioxidant capacity of Moringa oleifera leaves growth in Alhasa region, Saudi Arabia and bioactive compounds using HPLC and total phenolic contain and their antimicrobial activity when inculcated in chicken burger. Different concentration of whole MO leave (MO extract powder; MOEP) and polyphenol-rich extract (MO polyphenol extract, MOPE) (0.5%, 1% and 2%) incorporated chicken burger and control without MO were prepared. pH, microbial analysis and instruments color were assessed in different time points (0, 2, 4 and 6 days). Chicken burger with 0.5% and 1% of MOPE showed significant lower total plate count throughout the storage period (anti-microbial) compared to MOEP.

The study identifies significant antioxidant and anti-microbial activity in MO leaves in chicken burger this may due to high bioactive compounds identified in our study in MO leaves included phenolic acid (cinnamic acid, p-coumaric acid, ferulic acid, caffeic acid, chlorogenic acid, and rosmarinic acid) flavonoids (Myrectin, quercetin and kaempferol).



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# Evaluation of Dietary Habits and Quality of Life (QoL) in a Sample of Saudi Adult Patients (male and female) with T2DM in Jeddah

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**Objective:** To evaluate the dietary habits and Quality of Life (QoL) in a sample of Saudi adult patients (male and female) with T2DM in Jeddah.

**Methods:** A cross-sectional study was applied on 200 adult patients with T2DM: 100 male and 100 female, aged between 30-65 years randomly selected to determine the QoL and dietary habits from the department of internal medicine in King Abdulaziz University Hospital (KAUH). Patients were adult Saudi nationality suffer from T2DM for at least a year. Data obtained included questionnaires (Audit of Diabetes Dependent QOL (ADDQoL), Personal Diabetes Questionnaire (PDQ)), anthropometric measurement includes (Weight, Height, Body mass index BMI) and blood pressure with laboratory investigation includes glycated hemoglobin (HbA1c).

**Results:** Most of the study participants (73.5%) were up to 50 years old, (56%) obese and (31%) overweight, (45.5%) had fair level of (HbA1c between 8.1 -11%) and (50%) were suffered from high blood pressure (hypertension) or (40.5%) pre- hypertension. (96%) had bad, very bad and extremely bad QoL level. There were a very strong positive correlation between QoL and: sex, BMI, diet knowledge and skills, diet barriers ( $P=0.003^{**}$ /  $P=0.034^{*}$ /  $P=0.003^{**}$ /  $P=0.000^{**}$ ) respectively. Also, (42.5%) of study participants who had bad, very bad and extremely bad QoL control their blood glucose by diet and medication, (80.0%) were not following a diet plan to control their blood glucose, (77.0%) were not following a plan to reduce their body weight.

**Conclusion:** The results showed that diabetes mellitus affected the QoL of patients. Age, obesity, blood glucose control, blood pressure, weight control, diet change readiness, the knowledge and skills, dietary habits and complications of T2DM could be considered as risk factors for QoL of patients.

**Key words:** Type II DM, Dietary habits, Quality-of-Life

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# Side-effects of Enteral Nutrition in childhood cancer [Systematic Review and Meta-analysis]

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**Objectives:** This systematic-review explores the overall side-effects of enteral nutrition on childhood cancer and their impact on growth during anti-cancer therapies. Additionally, this review evaluates therapy approaches related to adverse-events, complications impact in terms of therapy discontinuation, and possible methods to resolve such complications.

**Methods:** PubMed, Cochrane Library and ScienceDirect between 2000 and 2018 provided evidence. Included studies involved (i) paediatric patients < 20 years undergoing therapy (ii) some type of enteral nutrition (iii) reported side-effects and their impact on growth and/or (iv) secondary outcomes resulted from adverse-events, and alongside methods to resolve side-effects. Data on the study and patient characteristics were summarized and adverse-events proportion ratios calculated, employing Jadad and Newcastle-Ottawa Assessment scales for evidence quality assessment.

**Results:** Ten studies met the inclusion criteria with a high-quality score, apart from 3 studies received fair-quality scores. 398 paediatric cancer patients were evaluated. Gastrointestinal symptoms were the predominant side-effect, with a proportion rate of 0.394 (95%CI: 0.313- 0.480), including vomiting (47%). Infections flowed close behind with a proportion rate of 0.517 (95%CI: 0.326-0.702). The remaining six percent consisted of other complications like granulation. Participants of trials with >40 incidents of adverse-events, lost 15% to 32% of their weight. Infection occurs often in long-term feeding (RR=4.4), gastrostomy tube (RR=3), chemotherapy (RR=2.6), and brain tumour patients, while gastrointestinal symptoms mostly affect those undergoing short-term feeding (RR=2.5), nasogastric tube (RR=4.3), and combined radiotherapy and chemotherapy (RR=3). The diverse-events mainly lead to changing of the tube (40%), chemotherapy delay and increase in hospital admission rate. Authors used antibiotics and changed tubes to alleviate side-effects.

**Conclusions:** Gastrointestinal symptoms and infections are the most common side-effects of enteral nutrition on childhood cancer, and can negatively impact in growth as well as therapy. However, these side-effects are treatable and preventable. For more validity, further control trials are needed

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# Effect of Dairy Products Intake

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This study was designed to determine the effects of dairy products (milk, yogurt and cheese) intake and some physical activities (walking, running and using elevators) on bone mineral density (BMD) and body mass index (BMI) which are used as indicators of Osteoporosis and Obesity respectively. BMI was calculated by dividing weight (kg) by the square of height (m<sup>2</sup>) (k/m<sup>2</sup>) and classified as following: Underweight (< 18.5 BMI), Normal weight (18.5-24.9 BMI), Overweight (25-29.9 BMI) and Obese (> 30 BMI) considered as Obesity degrees. BMD was measured for the right foot with a pDEXA densitometer with a dual-energy X-ray absorptiometry (DXA) and expressed as a T-score index then divided as following: Normal ( $T \geq 1$ ), Osteopenia ( $T (-1) - (-2.5)$ ) and Osteoporosis ( $T < -2.5$ ). The correlation has been done according to Pearson Correlation Coefficient Formula. Results showed that the average of BMI, BMD and dairy products intake were  $27.3 \pm 0.98$ ,  $0.79 \pm 0.77$  and  $62 \pm 0.43$  respectively. Findings revealed that the most of respondents used to consume insufficient amounts of dairy products which led to high rate of osteoporosis (21%) and osteopenia (37%). Correlation value of physical activities was negative with BMI (-0.073) and it was positive with BMD (0.053). Findings conclude that dairy products consumption and daily physical activities may enhance bone mineral density and prevent obesity.

**Key words:** Dairy Products, Bone Mineral Density, Body Mass Index, Osteoporosis

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# A Study on Early and Exclusive Breastfeeding

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**Introduction and Aim:** Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. WHO recommends initiation of breastfeeding within first one hour of birth, exclusive breastfeeding till six months and continued breastfeeding till one year or beyond. A per National Family Health Survey (NFHS)-4 (2015-16) in India early initiation of breastfeeding is 41.6%, exclusive breastfeeding is 54.9% and median duration of breastfeeding is 29.6 months.

The aim of the present study is to assess the breastfeeding practices of mothers across different socio-economic strata (SES) in urban Delhi-NCR, India.

**Methods:** A total of 260 mothers having infants  $6\pm 0.5$  months of age were enrolled randomly from Outpatient Department of a District Civil Hospital and a Private Clinic in Gurugram. Modified BG Prasad Scale was used to classify participants in different socio-economic strata. A questionnaire-cum-interview schedule was designed to collect information about breastfeeding practices followed by the mothers.

**Results:** The present study reported that early initiation of breastfeeding (EIBF) was 28.5% among the infants and EIBF decreased with increase in SES. It was 40% in lower socio-economic strata (LSES) while in middle- and -upper.

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# Effect of the Probiotic Yogurt on Hypercholesterolemic Rats

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**Background:** Probiotics have been attracting growing interest due to their potential ability to alleviate hypercholesterolemia.

**Objective:** This study aimed to investigate the hypocholesterolemic effect of standard yogurt and probiotic yogurt fermented with *B. lactis/ animalis*, *L. acidophilus* and *L. gasseri* in Hypercholesterolemic rats.

**Method:** Twenty-four male Westar albino rats were distributed randomly into four equal groups (6/group). After 8 weeks of feeding High Fat Diet (HFD) to induce hypercholesterolemia, the groups were classified as follow: Control Negative fed on normal diet, Control Positive fed on HFD alone, Standard Yogurt Group fed on HFD with standard yogurt and Probiotic Yogurt Group fed on HFD with probiotic yogurt. After 6 weeks, blood sample were collected for biochemical analysis.

**Results:** Standard and probiotic yogurts significantly reduced Total Cholesterol (TC) level by 64.4% and 62.3%, Triglyceride (TG) level by 23.6% and 25.5% and Low Density Lipoproteins level (LDL) by 65.2% and 63.1% respectively compared to control positive group. In addition, they significantly increased the High Density Lipoproteins level (HDL) by 69.2% and 66% respectively ( $P < 0.05^{***}$ ). Furthermore, they decreased the percentage of body weight gain BWG% by 24.2% and 28 % respectively compared to control positive group.

**Conclusion:** Both Standard and probiotic yogurts were effective to improve lipid profile parameters and antioxidants status in hypercholesterolemic rats.

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# The Effect of Dairy Product Intake During an Energy-Restricted Diet on Body Composition and Other Biochemical Markers Related to Obesity in Adults Who are Overweight or Obese: A Systematic Review

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The effect of dairy product intake during an energy-restricted diet on body composition and other biochemical markers related to obesity in adults who are overweight or obese: A systematic review.

**Background:** The global increase in the prevalence of obesity and associated health problems means that strategies are required to help people better manage their weight. Energy restriction is the first line of approach to treating and managing obesity. However, recent studies have reported positive results on weight and body composition when dairy products are part of the energy-restricted diet with and without exercise and health education.

**Objectives:** To critically evaluate the evidence available for the effectiveness of dairy products on body composition and other biochemical markers related to obesity in adults with overweight/obesity who are 18-65 years and following an energy-restricted diet.

**Method:** A comprehensive search of the literature on different electronic databases including PubMed/Medline, ScienceDirect and Wiley online library (Cochrane Library<sup>®</sup>) was carried out for literature published between 2007 and 2017 to obtain English language articles on relevant randomized control trials investigating the effects of dairy products in conjunction with an energy-restricted diet to treat or manage overweight conditions and obesity.

**Results:** Ten randomized control trials used dairy products in servings ranging from 1 to 7 per day with energy-restricted diet (-200 to 800 kcal/day) for a duration of 8 weeks to 16 weeks found reduction in body composition (weight, BMI, waist circumference and body fat) and other biochemical markers related to obesity (systolic and diastolic blood pressure, triglycerides and glucose). Five of the ten studies combining dairy products intake with exercise and/or health education intervention.

**Conclusion:** The consumption of 2-7 servings of dairy products during an energy-restricted diet (â%¥-500 kcal/day) significantly reduces body composition as well as other biochemical markers related to obesity. Combining physical activity and nutrition education with a high-calcium dairy, high protein energy-restricted diet results in greater weight loss. Although the short-term effects look promising, further rigorous research to evaluate the effects of dairy products intervention is recommended.

**Key words:** Dairy and weight change, Dairy and weight loss, Dairy and energy restriction, Dairy and body composition



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# Nutritional Care for Patients with Psychiatric and Mental Disorders

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There is no doubt that good nutrition plays a vital role in improving the health status of the patients with psychiatric and mental disorders, as well as episodes of "autistic children" and "attention deficit hyperactivity disorder" in children (ADHD). So we must make great attention to providing therapeutic meals for the patient which compatible with his health, considering the symptoms in the side of drugs and overlapping incident between food and medicine. We must introduce high calorie and protein diets to compensate the psychological patient for what he has lost his body when the weakness and poor appetite associated with acute psychiatrics. Also protein increases the production of the Dopamine and Epinephrine hormones which strengthens attention and vigilance and makes the patient tends to think and act quickly especially in depressed patients, that these proteins are highly critical value, such as meat, fish, poultry and eggs, and also take into account the interest in the containment of the meal on the complex carbohydrates of fruits and vegetables the full pulses, bread and oats as it is rich in the amino acid tryptophan main manufacturer of nervous transmission in the brain called "Serotonin".

The meal must contain also sufficient amounts of unsaturated fats and reducing as much as possible or avoid foods rich in saturated rising proportion of saturated fats in the blood which interfere with blood flow easily, which leads to weakness, especially in the brain circulatory.

This paper also discusses some of the interactions between food and medicine for patients with psychological disorders and nervousness, as well as exposure of the role of diet in improving Autism spectrum in children, as well as "attention deficit hyperactivity disorder" in children. This paper include several important nutritional recommendations for patients and caregivers.

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# Understanding Constraints to Sport Participation for Adolescent Girls: [Some Days that we Would want to Play...They Wouldn't Really want us to]

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**Introduction and Aims:** Adolescents who participate in sports are more inclined to adopt healthier behaviors such as developing healthier eating habits, being more physically active as adults and having improved overall psychological health. Furthermore, health behaviors that are shaped in childhood and adolescence are more likely to be maintained across the life course. Rates of sport participation decrease during adolescence, particularly among adolescent girls. Although research has documented this decline, it largely fails to examine constraints to sport participation for culturally diverse sub-populations. This study uses a mixed-methods design to explore constraints to sport participation among adolescent girls who have recently immigrated to the Greater Toronto Area in Canada.

**Methods:** Guided by Newell's theory of constraints, quantitative bivariate and multivariate analyses were conducted on survey responses from 90 participants in order to examine significant constraints to sport participation among immigrant adolescent girls, and to compare results with their counterparts. Results were further explored through semi-structured interviews with seven participants, which were guided through an interpretive phenomenological approach.

**Results:** Quantitative results suggest that constraints to sport participation among immigrant adolescent girls include absences related to friends' encouragement and family sport participation, belief that certain sports are not for girls, and physical intensity. Significant constraints to sport participation for girls who were not classified as immigrants include feeling positive, being less energetic, not having time, being less confident, and having access to green space. An in-depth understanding of constraints to sport participation among adolescent immigrant girls revealed the following themes such as lack of time and energy due to busy schedules and familiar cultural responsibilities, unsupportive social environments, social norms regarding girl sport participation, issues related to accessibility and availability, and individual beliefs and concerns.

**Conclusions:** The information gathered highlight constraints to sport participation faced among adolescent girls from diverse cultures, which may aid in informing future programs related to sport participation, particularly in relation to inclusivity and social justice. Importantly, findings are relevant for knowledge mobilization efforts that aim to increase rates of sport participation among adolescent girls from culturally diverse backgrounds.

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# External and Internal Elements Affecting Skin Aging: A Closer Look into UAE Related Research

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Skin aging is a natural process that occurs by time and is dictated by internal and external elements. There is major evidence which demonstrates that oxidative stress plays a significant role in the onset of human skin aging. External skin aging is triggered by several external stressors like pollution, unhealthy lifestyle and ultraviolet radiation; all of which had been shown to animate the creation of responsive oxygen species and produce oxidative pressure. Air contaminants, particulate matter (PM) and dust particles exposure especially in huge urban areas had been significantly associated with negative effects on human skin. Tiny particles are able to enter the skin, produce dark spots, negligible differences, and wrinkles. Moreover, an unwelcome aftereffect of pollution, pollution may be related to skin inflammation breakouts and expansion in oil creation, as free radicals profound inside the skin and aggravate inflammation. Such an exaggerated inflammation and consequent DNA transformation could pave the pathway for skin cancer. Diet which has a significant role in deriving antioxidants that have a magnificent role in fighting oxidative stress. This paper will highlight studies from the UAE and the world that focus on the effect of air pollution and other environmental factors on external skin aging specifically in the context of oxidative pressure as humans get older. It will also emphasize the dietary habits that can prevent or mitigate the detrimental effects of pollution.

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# Ambulatory Services and Home Health Care in the UAE

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The life expectancy in the UAE has increased from 1960 to 2015 based on the world bank studies. Currently, 5.2% of the UAE nationals are above 60 years and this figure is expected to increase in 2032 to reach 11%. Hence, ambulatory care and specialized services are extremely essential in promoting healthy aging for the elderly population. In Abu Dhabi, Seha has recently launched an initiative entitled the 'Al Bir Wal Ehsan' campaign which includes routine check-ups and an array of home health care services. Moreover, several Seha hospitals, including Tawam and Sheikh Khalifa Medical City currently offer dedicated home care departments. Such services do not cover all the country however and despite the enormous effort invested by the ministry of health and other sectors, there is still a need for more initiatives in the context of ambulatory services.

The aim of this study is to provide an overview of ambulatory services offered in the UAE in different sectors including chemotherapy, dialysis, vaccination, physical therapy, routine checkups, medications, rehabilitation, and chronic disease management and to provide insights on how to make such services more accessible for the elderly while simultaneously reducing the pressure on health care providers in the hospitals.

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# Is Sedentarity Only Physical Inactivity?

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For a long time, sedentarity and inactivity have been considered as two different words to describe the same behavior. The transformation of the lifestyles obliged to reconsider this. Indeed, modern societies tend to increase the time devoted to sedentary activities while the time spent in the practice of a regular physical activity remains insufficient. When the combination of a low level of physical activity with a prolonged sitting time was associated with a higher risk of developing diseases compared to the combination of a low level of physical inactivity with a reduced sitting time, it became obvious that sedentarity and inactivity were two different concepts. It is now admitted that sedentarity is defined as any waking behavior characterized by an energy expenditure  $\leq 1.5$  METs in a sitting, reclining or lying posture while physical inactivity means not meeting the current physical activity guidelines. Further investigations clearly demonstrated that sedentarity and inactivity were two separate behaviors, differently associated to the risk factors for many diseases.

Consequently, the promotion of physical activity alone, as it was the case of the great majority of the intervention studies so far, is not enough. The reduction of sedentary activities should also be encouraged. More recently, the breaking of prolonged sitting time was shown as an efficient way to counteract the deleterious effects of sedentarity on health, especially in working places. Although the optimum pattern of breaks remains to be determined, this seems to represent a promising new strategy to limit sedentarity in the daily life.

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# Determination of Total Dietary Fiber in 12 Date Varieties Using Enzymatic and Non-Enzymatic Methods

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The date fruit (*Phoenix dactylifera* L.) is of high nutritional value because it is a good source of carbohydrates, dietary fiber, antioxidants, vitamins and minerals. The dietary fiber of fruits and vegetables have several health benefits including antioxidant, anti-inflammatory, and anticarcinogenic effects. Different date varieties differ in their total dietary fiber levels. The main aim of this project was to determine total dietary fiber content (%) of different varieties of dates (soft, semi-dry, and dry), using 2 methods (enzymatic and non-enzymatic). We performed the analysis in triplicate samples of 12 date fruit varieties (ten from UAE and two from Sudan).

The results showed that total dietary fiber content of the different dates ranged from 7.21% to 16.97%. There were no significant differences between the enzymatic and non-enzymatic method in measuring the dietary fiber content of the 12 date fruit varieties ( $p=0.095$ ). For the first time, we compared total dietary fiber levels in 12 varieties of date fruit using enzymatic and non-enzymatic methods to determine their comparability. Future studies should conduct additional analysis involving more samples to confirm our findings.

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# The Accuracy of Predictive Equations for Resting Energy Expenditure in Young Adults

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Weight management and changes in body composition are desirable to enhance health. Often, subjects slip into relative energy deficiency to achieve changes in weight and body composition. Prediction of resting energy expenditure (REE) is vital to determine a person's daily energy expenditure. The purpose of this study was to compare measured REE in young adults with predicted REE values from popular prediction equations to determine the most accurate equation.

A total of 58 participants (age:  $21.6 \pm 1.7$  years, BMI:  $23.2 \pm 3.8$ , BF%:  $20.2 \pm 9.2$ , 44 males and 14 females) were recruited for this study. The REE was measured with the use of indirect calorimetry, and body composition assessed using bioelectrical impedance. Accuracy of the prediction equations was evaluated using one-way ANOVA with repeated measures followed by dependent t-test to determine differences between measured REE and prediction equations, and linear regression analysis to assess the accuracy of the REE prediction equations.

Our results showed that all prediction equations except for the formulas by Schofield (mean difference: -5.7 kcal/day, root mean square prediction error 213 kcal/day,  $p = 0.840$ ) and DeLorenzo (mean difference: -37.4 kcal/day, root mean square prediction error 201 kcal/day,  $p = 0.158$ ) significantly underestimated REE. The REE prediction equation developed by Schofield appears to be the most accurate for young adults and would yield the lowest deficiency in energy.