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PERCEPTIONS OF NUTRITION AND HEALTHY LIFESTYLE AMONG WOMEN IN SAUDI ARABIA

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Valencia-September 2015



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King Fahad Medical City (KFMC)

- KFMC has a capacity of 1095 beds. It has been officially inaugurated in 2003.
- It is composed of four hospitals
  - Main,
  - Rehabilitation
  - Children's hospital
  - Women Specialized Hospital
- Four specialized medical centers :
  - Prince Sultan Hematology & Oncology Center,
  - Prince Salman Heart Center, and
  - Diabetes and
  - Neurosciences centers
- It treats annually around 50,000 in-patients and over 600,000 out- patients for free.
- New National Cancer and Proton Beam Therapy Centre worth of $73.8m and a novel stem cell research centre.

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Outline

- Introduction
- Case Control study: Women's Perception on Nutrition at King Fahad Medical City, Riyadh, Saudi Arabia
- Literature Review
- Discussion
- Q & A

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Introduction

- Over the last few decades, food choices and eating habits have changed amongst people and Saudi Arabian families, as western food choices and food chains have become increasingly prevalent throughout the country and particularly in urban areas.

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- While the Bedouin nomads consume a much simpler diet than that of the urban Saudi Arabians, typically fava beans, wheat, rice, yogurt, dates and chicken
- Several studies have identified an increase in the consumption of fast food in Saudi Arabia, particularly within the adolescent population.







- This, along with an increasingly sedentary lifestyle, has led to an increase in the incidence of obesity among the Saudi Arabian population.
- Prevalence ranges from 14% in children to 83% in adults.
- Studies have also shown an increase in the prevalence of diabetes and hypertension in the Saudi Arabian population, particularly in women of reproductive age.

Madani KA, Al-Amoudi NS, Kumosani TA. The state of nutrition in Saudi Arabia. Nutrition and Health 2000;14:17-31.

- It is well recognized that healthy eating and nutrition is of particular importance during pregnancy to meet the needs of both the developing fetus and the mother's well being.

- Women of reproductive age need to consume a ***wider variety of nutrients when pregnant,*** and nutritional screening and education has been shown to maximize good maternal and fetal outcomes.

- Research has shown that a woman's diet during pregnancy can also influence the child's health and nutritional status later in life.

- However, despite the belief that women are required to double their food intake during pregnancy, it is the *quality* of the diet that is of far greater importance than the *quantity* of food consumed.

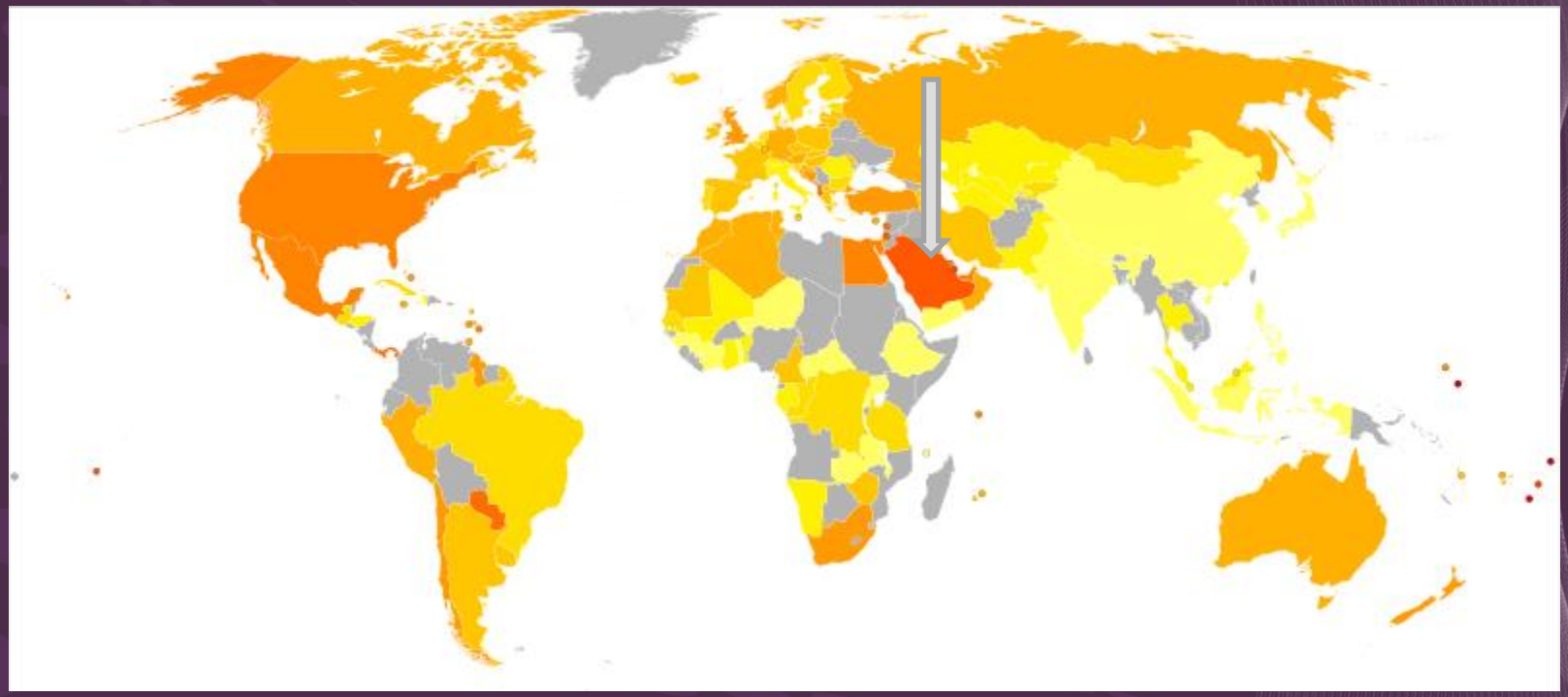
Body mass index and obstetric outcomes in Saudi Arabia: a prospective cohort study. Ann Saudi Med. 2010 Sep-Oct; 30(5): 376–380.

- Although pregnancy increases the requirements of many nutrients, these requirements can often be met if regular meals containing a variety of food from the main food groups are eaten.

- In addition, a recent study conducted in pregnant or sub-fertile women in Saudi Arabia established an average body mass index (BMI) of 32 kg/m^2

Body mass index and obstetric outcomes in Saudi Arabia: a prospective cohort study. Ann Saudi Med. 2010 Sep-Oct; 30(5): 376–380

World map of Female Obesity, 2008



World obesity prevalence among males (left) and females (right).[168] <5% 5–10% 10–15% 15–20% 20–25% 25–30% 30–35% 35–40% 40–45% 45–50% 50–55% >55%Map of Obesity in Adult Females (% of adult population with en:BMI 30+) per country. Using data updated until December 2008.

- Other studies have identified the need to educate Saudi Arabian women on the nutritional and physical activity requirements needed to maintain a healthy lifestyle, and have suggested that women should undergo prenatal assessments to determine their nutritional status and food consumption patterns

Al-Hazzaa H. The public health burden of physical inactivity in Saudi Arabia. J Family Community Med. 2004; 11(2): 45-51.



- Nutritional education remains an important public health issue across the world.

- As perceptions of healthy eating and lifestyle are considered to be one of the many factors that influence an individual's eating habits, it is important to effectively promote and support healthy eating habits among women

- In order to change lifestyle practices, nutritional beliefs and practices amongst women need to be understood.
- A better understanding of the factors that influence eating behaviours is required.
- However, to date, studies regarding the perceptions of nutrition among Saudi Arabian women have been limited



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STUDY

- The objective of the present study was to assess perceptions of nutrition and healthy lifestyle in women attending antenatal or preconception clinics at King Fahad Medical City, Riyadh, Saudi Arabia.

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Perceptions of nutrition and healthy lifestyle among women in Saudi Arabia

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Methods

Study population

- The study population comprised 1000 women who attended the antenatal or preconception clinics at the out-patient department between May and October 2012.

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- A questionnaire containing 25 questions was administered to all study participants.

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WOMEN'S SPECIALIZED HOSPITAL

NUTRITION ASSESSMENT QUESTIONNAIRE for woman at WSH

1. AGE : 15-20☐ 20-30☐ 30-40☐ 40-50☐ 50plus ☐
2. Nationality : Saudi ☐ Non-Saudi ☐
3. matures status: Married ☐ Single ☐ Divorced ☐ Widowed ☐
4. Education : Illiterate ☐ Elementary ☐ High School ☐ University ☐ None ☐
5. Occupation; House wife☐ Student☐ Employed☐
6. Do you Smoke : Yes ☐ No☐
7. Are you currently pregnant? Yes ☐ No☐
8. Has your weight changed in the last 6months: No☐ Up☐ Down ☐
9. What is your current **weight?** _____Kg.
10. Are you on a special diet for medical reasons? yes☐ No☐
    If yes why? _____
11. How many meals do you eat a day? 2☐ 3☐ 4☐ Over 4☐
12. Do you eat breakfast: Yes☐ No☐
13. What time do you have your evening meal? 6-8pm☐ 8-10pm☐ 10-12pm☐ after midnight☐
14. What time do you generally go to bed? 8-10pm☐ 10-12pm☐ 12-2am☐ after 2am☐
15. Do you eat dessert?
    Daily (1☐ 2☐ 3☐ times) 2-3 times a week☐ Weekly ☐ Never ☐
16. How much water do you drink per day? 1-2 glasses ☐ 3-4 glasses ☐ over 4 ☐
17. When do you drink water? During the meal ☐ After the meal ☐ During and after the meal ☐
18. Do you take vitamins: Yes☐ No☐
19. do you read the ingredients when buying food? Yes☐ No☐
20. Do you think Pregnant Women need to eat double for the growth of the baby? Yes☐ No☐
21. do you think that pregnant women needs a special diet? Yes ☐ No ☐
22. Do you do any form of exercise: No ☐ Yes ☐ if yes:
    - ☐ Gym Daily ☐ 2-3times a week ☐ Weekly ☐
    - ☐ Walking
    - ☐ Running
    - ☐ Playing sport:
23. What do you consider as a healthy diet/lifestyle
    - ☐ Eating breakfast lunch and dinner with no snacks in between
    - ☐ Eating only fresh fruit and vegetables
    - ☐ Eat what you like to maintain a healthy weight
    - ☐ Eat only when hungry
    - ☐ Exercise regularly and eat what you like
    - ☐ Consume regular meals that consist of fruit, vegetables, protein and grains
    - ☐ I don't know
24. What do you think are the five food groups
    - ☐ Fat, protein, sugar, carbohydrates, iron
    - ☐ Grains, protein, sugar, vegetables, fats
    - ☐ Grains, dairy products, fruits and vegetables, meat/protein and fat/oils
    - ☐ I don't know
25. Would you consider learning more about healthy eating and lifestyle for you and your family?
    Yes☐ No☐ Thru : TV☐ Brochures☐ Internet☐ Newspaper☐

Statistical analysis

- Summary statistics were obtained as means, medians and standard deviations from continuous variables, and as frequency and percentages for categorical/qualitative variables.
- Univariate tests of association between qualitative variables were undertaken using Chi-square/Fisher Exact tests.
- Tests of significant differences in quantitative /continuous variables between or among groups were conducted based on the t-test/nonparametric methods and/or analysis of variance techniques.
- Multivariate analysis for categorical variables was pursued using logistic regression methods.
- An overall 5% significance was used for all analyses.
- Statistical Analysis System (SAS Institute Inc, Cary, NC, USA, version 9.3) was used for data analysis.

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Results

Participant demographics

- A total of 1000 women were screened, and enrolled in the study.

Age, years, n (%)	
15–20	47 (4.7)
21–30	513 (51.3)
31–40	383 (38.3)
>41	57 (5.7)
Nationality, n (%)	
Saudi Arabian	948 (94.8)
Other	52 (5.2)
Marital status, n (%)	
Single	29 (2.9)
Married	965 (96.5)
Divorced	2 (0.2)
Widowed	4 (0.4)
Education level, n (%)	
University	562 (56.2)
High school	291 (29.1)
Elementary	81 (8.1)
Illiterate	66 (6.6)
Occupation, n (%)	
Employed	281 (28.1)
Housewife	625 (62.5)
Student	94 (9.4)
Smoking, n (%)	
Yes	1 (0.1)
Pregnant, n (%)	
Yes	726 (72.6)

Dietary and exercise habits

Characteristic, n (%)	Participants (n=1000)
Specific dietary requirements	
Yes	153 (15.3%)
No	847 (84.7%)
No. of meals consumed per day	
2	422 (42.6%)
3	450 (45.4%)
4	119 (12%)
>4	7 (0.7%)
Consume breakfast	
Yes	692 (69.2)
Timing of dinner	
18:00–20:00	22 (2.2)
20:00–22:00	439 (43.9)
22:00–0:00	485 (48.5)
After midnight	40 (4.0)
No dinner	14 (1.4)
Frequency of dessert consumption	
Daily once	407 (40.7)
Daily twice	33 (3.3)
Daily three times	41 (4.1)
Weekly	165 (16.5)
2–3 times/wk	322 (32.2)
Never	32 (3.2)
Consumption of water, glasses/day	
1–2	189 (18.9)
3–4	434 (43.4)
>4	377 (37.7)
Timing of water	
After the meal	437 (43.7)
During and after the meal	452 (45.2)
During the meal	111 (11.1)
Vitamin consumption	
Yes	620 (62.0)
Exercise	
Yes	255 (25.5)
Form of exercise	
Running	4 (0.4)
Walking	203 (20.3)
Gym daily	4 (0.4)
Gym 2–3/wk	11 (1.1)
Gym weekly	13 (1.3)
Playing sport	8 (0.8)
Time of sleep	
20:00–22:00	11 (1.1)
22:00–0:00	294 (29.4)
0:00–02:00	414 (41.4)
After 02:00	281 (28.1)

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DIET

- A number of participants (15.3%) had specific dietary requirements, including a diabetic diet (2%) or a weight reduction diet (2%).
- The majority of participants consumed two (42%) or three (45%) meals per day and 69% consumed breakfast.

Dinner was typically eaten between

- 20:00 and 0:00 with only 2% of participants eating earlier, and 4% eating later
- Only a small number of participants did not consume an evening meal (1%).



- The frequency of dessert consumption varied from never (3%) to two to three times per week (32%) to daily (48%).

- Most participants (81%) consumed >3 glasses of water per day, all during or after the evening meal.





Excercise

- While the majority of women did not participate in any form of exercise (74%), walking was the most common form that was undertaken by 20% of participants.

- Finally, the majority of participants (99%) went to sleep after 22:00; the most usual time of sleep was between 0:00 and 02:00.


JOEN

Nutritional knowledge pertaining to a healthy lifestyle

Question	Response	Participants (n=1000), n (%)
Do you read food ingredients on labels while shopping?		
	Yes	542 (54.2)
	No	457 (45.7)
Do pregnant women need to double their food intake?		
	Yes	778 (77.8)
	No	222 (22.2)
Do pregnant women require a special diet?		
	Yes	412 (41.2)
	No	587 (58.7)
What constitutes a healthy diet?		
	Three meals per day	118 (11.8)
	Fresh fruits and vegetables only	32 (3.2)
	Regular meals of fruits, vegetables, protein and grains	587 (58.7)
	Any food with regular exercise	41 (4.1)
	Any food to maintain a healthy weight	62 (6.2)
	Eat only when hungry	117 (11.7)
	Don't know	43 (4.3)
What do the main food groups consist of?		
	Fat, protein, grains, dairy products, fruits & vegetables	596 (59.6)
	Don't know	132 (13.2)
	Fat, protein, sugar, grains, and vegetables	117 (11.7)
	Fat, protein, carbohydrates, sugar, and iron	115 (11.5)

Would you like to learn about healthy living?		
	No	17 (1.7)
	Yes	983 (98.3)
	Via internet	456 (45.6)
	Via television	409 (40.9)
	Via mobile	1 (0.1)
	Via brochures	88 (8.8)
	Via newspaper	38 (3.8)


A Healthy Habit:
Read Food Labels
Start Here
Nutrition Facts
Serving Size: 6 crackers (28g)
Servings Per Container: About 13
Amount Per Serving
Calories 120
Calories from Fat 40
% Daily Value*
Total Fat 4.5g 7%
Saturated Fat 0.5g 4%
Trans Fat 0g
Polyunsaturated Fat 2.5g
Monounsaturated Fat 1.5g
Cholesterol 0mg 0%
Sodium 180mg 7%
Total Carbohydrate 19g 6%
Dietary Fiber 3g 13%
Sugars 0g
Protein 3g
Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 8%
Limit These
Get More of These
Footnotes

- Just over half of the participants (54%) read the ingredient labels while shopping.
- The large majority of participants (78%) believed that pregnant women were required to **double** their food intake to aid the development of the fetus.
- Over half of the participants (59%) did not think that a special diet was necessary during pregnancy.

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- 59% considered regular meals of fruits, vegetables, proteins and grains as a healthy diet
- 12% believed that eating only when hungry was healthy

- Over half of the participants (60%) considered grains, dairy, protein, fat, and fruits and vegetables to be the five main food groups, while 13% did not know what the five main food groups were.
- The vast majority (98%) of the participants would consider **learning more** about healthy eating and lifestyle and would prefer to learn
  - Via the internet 46%
  - Via television 41%



- The perception of what constitutes a healthy diet was significantly associated with a higher level of education ($P<0.0001$), with those educated to a higher level more likely to believe that regular meals of fruits, vegetables, proteins and grains constitute a healthy diet, compared with 38% of illiterate participants.

- There was also a non-significant association between the consumption of breakfast and a higher level of education ($P=0.0578$), with 73% of participants educated to university level consuming breakfast compared with 62% of illiterate participants.

- However, there was no association between the level of education and the participation in exercise or the number of meals consumed per day ($P=0.5694$ and $P=0.1211$, respectively).

- A significant association between the time at which the evening meal was consumed and the age of the participant was observed (P=0.0447), with those aged >31 years more likely to eat dinner between 20:00–22:00, and those <31 more likely to eat dinner between 20:00–0:00.

- However, there was no association between the time at which the evening meal was consumed and occupation or level of education (P=0.3963 and P=0.8929, respectively).

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- No significant association was observed between the number of meals consumed and the perception of what constitutes a healthy diet (P=0.1283).
- A positive correlation was observed between the number of glasses of water consumed per day and vitamin intake and exercise (P<0.0001 and P=0.0107, respectively), with those who exercised and took vitamins more likely to drink >4 glasses of water per day compared with those who didn't.

Discussion

- A number of studies have highlighted the need to provide further education to Saudi Arabian women regarding nutrition and healthy lifestyle .
- This is of particular importance during pregnancy, as a healthy lifestyle and optimal nutrition is required to maximise good fetal and maternal outcomes .
- It has been noted that there is a high prevalence of obesity in pregnant Saudi Arabian women, and several studies have indicated that unhealthy eating and lifestyle habits are often observed in this population .

Int J Behav Nutr Phys Act. 2010; 7: 21. PMCID: PMC2855515
Published online 2010 Mar 21. doi: 10.1186/1479-5868-7-21

Measuring physical activity among pregnant women using a structured one-week recall questionnaire: evidence for validity and reliability

Kelly R Evenson[1] and Fang Wen[1]

Author information ► Article notes ► Copyright and License information ►

This article has been cited by other articles in PMC.

Abstract

Go to:

Background

Accurate measurement of the components of physical activity during pregnancy can aid in our understanding of the dose response relationships between physical activity and corresponding perinatal outcomes. The aim of this study was to develop and evaluate a one-week recall questionnaire to assess moderate to vigorous physical activity during pregnancy.

Methods

To assess concurrent-related validity, 177 pregnant women (median 18 weeks' gestation, interquartile range (IQR) 15 -23) kept a structured diary and wore an accelerometer (Actigraph) for one week. At the conclusion of the week, they completed the Pregnancy Infection and Nutrition 3 (PIN3) physical activity questionnaire over the telephone. To assess evidence for test-retest reliability, 109 pregnant women (median 19 weeks' gestation, IQR 18-27) completed the questionnaire twice over the telephone, within 48 hours apart, recalling the same two time periods. Spearman correlation coefficients (SCC) and intraclass correlation coefficients (ICC) were used to assess evidence for validity and reliability, respectively.

Results

Comparison of the questionnaire to the structured diary was moderate to substantial (SCC 0.47 to 0.69) for several measures of moderate or vigorous physical activity using either perceived or absolute intensity. Comparison of moderate to vigorous physical activity from the questionnaire (absolute intensity using MET-hours/week) to the accelerometer ranged from 0.12 to 0.23 using SCC for absolute intensity (MET-hours/week) and 0.28 to 0.34 using relative intensity (hours/week) (n = 177). Test-retest reliability was

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RESEARCH ARTICLE Open Access

The independent effects of maternal obesity and gestational diabetes on the pregnancy outcomes

Hayfaa A Wahabi[1*], Amel A Fayed[2,3], Rasmieh A Alzeidan[1] and Ahmed A Mandil[4]

Abstract

Background: Obesity and gestational diabetes (GDM) in pregnancy are recognized risk factors for adverse outcomes, including cesarean section (CS), macrosomia and preeclampsia. The aim of this study was to investigate the independent effect of GDM and obesity on the adverse pregnancy outcomes at term.

Methods: A retrospective cohort of postpartum women, in King Khalid University Hospital, were stratified according to body mass index (obese ≥30 kg/m^2, non-obese <30 kg/m^2) and the results of GDM screening into the following groups, women with no obesity and no GDM (reference group), women with no obesity but with GDM, women with obesity but no GDM and women with both GDM and obesity. Adverse pregnancy outcomes included high birth weight, macrosomia, CS delivery and preeclampsia. Multiple logistic regression used to examine independent associations of GDM and obesity with macrosomia and CS.

Results: 2701 women were included, 44% of them were obese and 15% had GDM. 63% of the women with GDM were obese. There was significant increase in the percentage of macrosomia, $P < 0.001$, high birth weight, $P < 0.001$, CS, $P < 0.001$ and preeclampsia, $P < 0.001$ in women with GDM and obesity compared to the reference group. Obesity

Matern Child Health J. 2009 Sep;13(5):695-706. doi: 10.1007/s10995-008-0405-6. Epub 2008 Sep 3.

Major influences on nutrient intake in pregnant New Zealand women.

Watson PE[1], McDonald BW.

Author information

Abstract

OBJECTIVE: To investigate factors associated with maternal diet during pregnancy and rank these in order of influence using data from a prospective cohort of 196 pregnant women, aged between 18 and 35 years of mostly European origin.

METHODS: Anthropometric measurements were taken, questionnaires administered and 16 days of weighed diet intakes recorded, eight in the fourth and eight in the seventh month of pregnancy. Twenty four hours activity records were kept for 3 days at these times. Factors investigated were education, age, occupational status, welfare dependence, smoking, number of children, morning sickness, activity level, height, weight, body mass index, and sum of skinfolds.

RESULTS: Univariate analyses showed median weight of food and nutrient intakes were significantly lower in the less educated, the young, welfare dependants, smokers, and those who vomited during pregnancy. Almost all subjects had intakes of Vitamin D, folate, iron, and selenium below the estimated average requirement. Multivariate analyses of each nutrient against all predictors showed that in decreasing order of importance, education, maternal height, welfare dependence, smoking, and morning sickness had the greatest overall effect on the women's diets, mostly through their influence on energy intake. Age and number of children had less association with nutrient intake but along with education had a strong association with energy adjusted quality of diet. Weight and activity had weak associations with the quantity and quality of intake. After adjusting for energy intake, morning sickness ceased to be relevant.

CONCLUSION: To maximize effectiveness, education, welfare dependence, smoking, morning sickness, age, and parity are important factors to consider when attempting to change maternal diet during pregnancy.

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Validity of the Willett food frequency questionnaire in assessing the iron intake of French-Canadian pregnant women

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Received: September 4, 2012; Accepted: December 13, 2012;

Altmetric 1

DOI: http://dx.doi.org/10.1016/j.nut.2012.12.019

Article Info

Abstract Full Text References

Abstract

Objective

Maternal intake is crucial to pregnancy outcomes. Evidence shows that both nutrient deficiency and excess can have adverse effects. In pregnancy, changes in iron metabolism occur; therefore, dietary reference intakes increase to support expansion of red cells and maternal–fetal transfer of iron. Appropriate and valid assessment tools are required to investigate nutritional concerns in mothers with and without gestational diabetes mellitus (GDM). The objective of this study was to assess the Willett food frequency questionnaire (FFQ) to assess iron intake in women with (n = 15) and without (n = 45) GDM.

Methods

To validate the modified FFQ, estimated total iron intake during the third trimester was compared with biomarkers of iron status such as serum ferritin, soluble transferrin receptor (sTfR), and the sTfR:F index at delivery. Data were tested for normality using the D'Agostino-Pearson test. Differences between groups were tested using *t* tests or Mann–Whitney tests. Correlations were tested using Spearman's ρ. Significance was set at $P < 0.05$.

Results

Significant crude and energy-adjusted serum ferritin and total iron intake were related ($\rho = 0.30$; $P < 0.05$) in women without GDM. Serum ferritin, sTfR, and the sTfR:F index were different ($P < 0.05$) between women with intakes above and below the recommended levels. Cross-classification showed agreement between methods in mothers with and



- In a study population of Saudi Arabian women attending pre-conception or antenatal clinics, the majority of which were pregnant or of childbearing age, we found a clinically significant lack of understanding around the nutritional and exercise needs of women.



- Contrary to scientific findings, the majority of women believed that during pregnancy, women are required to double their food intake.

- Additionally, over half of the study participants believed that no other specific dietary changes were required during pregnancy.





- This is of particular significance, as the quality of the diet is far more important than the quantity of food consumed and the increased nutritional requirements associated with pregnancy, can often be met by eating regular meals containing a variety of foods from the main food groups.

- However, our results demonstrated that a number of women did not know what the five main food groups consisted of, and were unclear of what constituted a healthy diet.



- Additionally, we found that a large number of participants (54%) did not read the ingredients on food labels while shopping and so consequently were probably not aware of the nutritional value of the foods they were consuming.
- Furthermore, the majority of women (74%) did not participate in any exercise, and for those that did, walking was considered to be their primary form of exercise.
- This indicates a lack of understanding of the role of exercise in maintaining a healthy lifestyle.

- However, it was encouraging that the vast majority (98%) of women questioned indicated that they would like to learn more about healthy eating and lifestyle.
- Preferably via the internet or television, and the results from our questionnaire clearly indicate that this is currently an unmet need, especially for those who were less well educated.

- Limitation to the study is the non-randomized sample, and the hospital cohort might not represent the general population.
- Results of earlier studies conducted in relation to Saudi females of childbearing age, concluded that there was a significant increase in obesity and poor awareness of nutritional intake and activity to maintain a healthy weight and lifestyle.

Al-Othaimeen AI, Al-Nozha M, Osman AK. Obesity: an emerging problem in Saudi Arabia. Analysis of data from the National Nutrition Survey. East Mediterr Health J. 2007;13:441–448.

- Two studies examined the nutrient intake of pregnant women in Sheffield in the UK and Seville, Spain.
- Both these studies found that pregnant women in these areas were short of important nutrients.
- Even though this study conducted did not look at specific nutrients by blood tests it is important to note that the perception of nutrition during pregnancy is not just restricted to Saudi Arabian women.

Body mass index and obstetric outcomes in Saudi Arabia: a prospective cohort study. Ann Saudi Med. 2010 Sep-Oct; 30(5): 376–380.
Perception of body weight and self-reported eating and exercise behaviour among obese and non-obese women in Saudi Arabia. *Public Health.* 1998;112:409–414.



- This study also found that in 2012, there were still a large proportion of women who do not per take in any form of exercise and do not understand what constitutes a nutritional diet.
- It is though encouraging that the women surveyed were willing to learn more not just for themselves but for their families .

- One study that was conducted, showed that over weight and obesity were not associated with age, residential area, income, gender, or education level but showed that obesity was less in the rural areas with traditional lifestyles of Saudi Arabia than those in a more urbanized environment.
- This study also concluded that age and gender associated with obesity was very similar to those of the western countries.
- The main reason was being the fast food chains and choices of foods with little nutritional value.
- This was also high amongst child bearing aged women and also the lower socio economic group.

National trends in self-reported physical activity and sedentary behaviors among pregnant women: NHANES 1999-2006. Prev Med. 2010;50:123–128.

Journal List › Int J Health Sci (Qassim) › v.6(1); 2012 Jan › PMC3523788

IJHS International Journal of Health Sciences
A Scientific Publications by Qassim University

Int J Health Sci (Qassim). 2012 Jan; 6(1): V–VI. PMCID: PMC3523788

Increasing trend of Junk food use in Saudi Arabia and health implications

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In Saudi Arabia there is increasing trend of junk food use. Combined with sedentary life style, high prevalence of obesity, diabetes mellitus, hypertension and coronary heart disease, it is detrimental to health and will aggravate existing life style diseases in the country. People here eat more consuming more quantity with less quality. The fast food market in Saudi Arabia is expected to reach $4.5 billion in gross sales by 2015, driven by growing demand from its population. [1]

Fast food is a major enterprise in Saudi Arabia. The major chains like Mc-Donald's, Pizza Hut, Burger King, Hardees, Little Caesars, Subway, Dunkin Donuts to name a few. Most meal packages with fries and coke run around 15–20 SAR. Beside multinational food chains some national brands are Al-Baik, Shawerma Joha and Kudu are available. [2]

Junk food, fast food and trash food are all definitions of a quick, unhealthy, hunger satisfying food, which are easy to make and easy to consume. They are low in nutritional value with a high caloric value. The term 'Junk food' was coined by Michael Jacobson, director of Center for Science in 1972. Junk food contains high level of refined sugar, white flour, polyunsaturated fats, salts and numerous food additives but lacking in protein, vitamin and fibers.

- In 1994, a study was conducted to look at the factors that influenced Saudi mothers nutritional knowledge during pregnancy and lactation.
- This study also looked at age, educational level, number of pregnancies and other obstetrical variables.
- This study concluded that the knowledge of nutritional needs during pregnancy and lactation is poor and is influenced positively by the level of education.

Overweight and obesity in the eastern province of Saudi Arabia. Saudi Med J. 2008;29:1319–1325.

Saudi Med J. 2008 Sep;29(9):1319-25.

Overweight and obesity in the eastern province of Saudi Arabia.

Al-Baghli NA[1], Al-Ghamdi AJ, Al-Turki KA, El-Zubaier AG, Al-Ameer MM, Al-Baghli FA.

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Abstract

OBJECTIVE: To describe anthropometric characteristics of participants and the influence of sociodemographic and cardiovascular risk factors involved in the prevalence of obesity in the eastern province of Saudi Arabia.

METHODS: In the year 2004, all Saudi residents in the Eastern province aged 30 years and above, were invited to participate in a community screening campaign for early detection of diabetes and hypertension. Demographic data, medical history, life habits, weight, height, blood pressure, and glucose concentration were recorded using a structured questionnaire. Obesity and overweight were defined by body mass index (BMI) >or=30 kg/m2 and 25-29.9 kg/m2, respectively. Logistic regression was used to predict the association of the significant factors with the prevalence of obesity.

RESULTS: Out of 195,874 participants, the overall prevalence of obesity was 43.8%, while 35.1% were overweight. The prevalence of underweight was 1.3%. The peak prevalence of obesity was observed in the age group 50-59 years. Obesity was higher among women than men, higher in housewives, and among the less educated than others ($p<0.0001$). Linear regression analysis showed a strong proportional association of BMI with diabetes, hypertension, triglycerides and cholesterol, and an inverse proportional association with physical activity and smoking

CONCLUSION: Obesity and overweight constitute an important health problem affecting a high proportion of Saudi population. Addressing associated factors, and enhancing public health education is an important aim to focus on for weight control.

CHILDHOOD OBESITY: PREVALENCE, RISK FACTORS AND LIFESTYLE BEHAVIOUR AMONG PRIMARY SCHOOL MALE CHILDREN IN AL-MADINAH AL- MUNAWARAH, SAUDI ARABIA

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DOI: 10.5455/ijmsph.2013.010920131 **Received Date: 31.08.2013** **Accepted Date: 01.09.2013**

ABSTRACT

Background: Childhood obesity is currently a major health problem in many countries of the world.

Aims & Objective: This study aimed to determine the prevalence of obesity and describe the risk factors among primary school male children in Al-Madinah Al- Munawarah, Saudi Arabia. It is our intension that these data can be useful in planning appropriate intervention programs targeting school children.

Material and Methods: This is a cross sectional descriptive study included 197 primary-school children aged 9 to 14 years living in Al-Madinah Al- Munawarah city. A structured questionnaire was constructed to collect information from the subjects. After an interview and a review of clinical examination records, height and weight were measured.

Results: In this study, 49 (24.9%) of 197 children were obese and 30 (15.2%) were overweight. Food consuming behaviors were strongly associated with childhood obesity in the variables "eating too much" ($p = 0.001$), "arguing if say enough or stop eating" ($p < 0.001$), "demanding food while still eating ($p = 0.001$) and "demanding food between meals" ($p = 0.021$). Personality behavioral variables were strongly associated with childhood obesity in the variables

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- A significant proportion of women in Saudi Arabia attending preconception or antenatal clinics, exhibit a number of unhealthy lifestyle habits.

- Additionally, a large proportion of the study population, had misconceptions regarding the constituents of a healthy lifestyle, and the additional dietary requirements that are recommend during pregnancy.



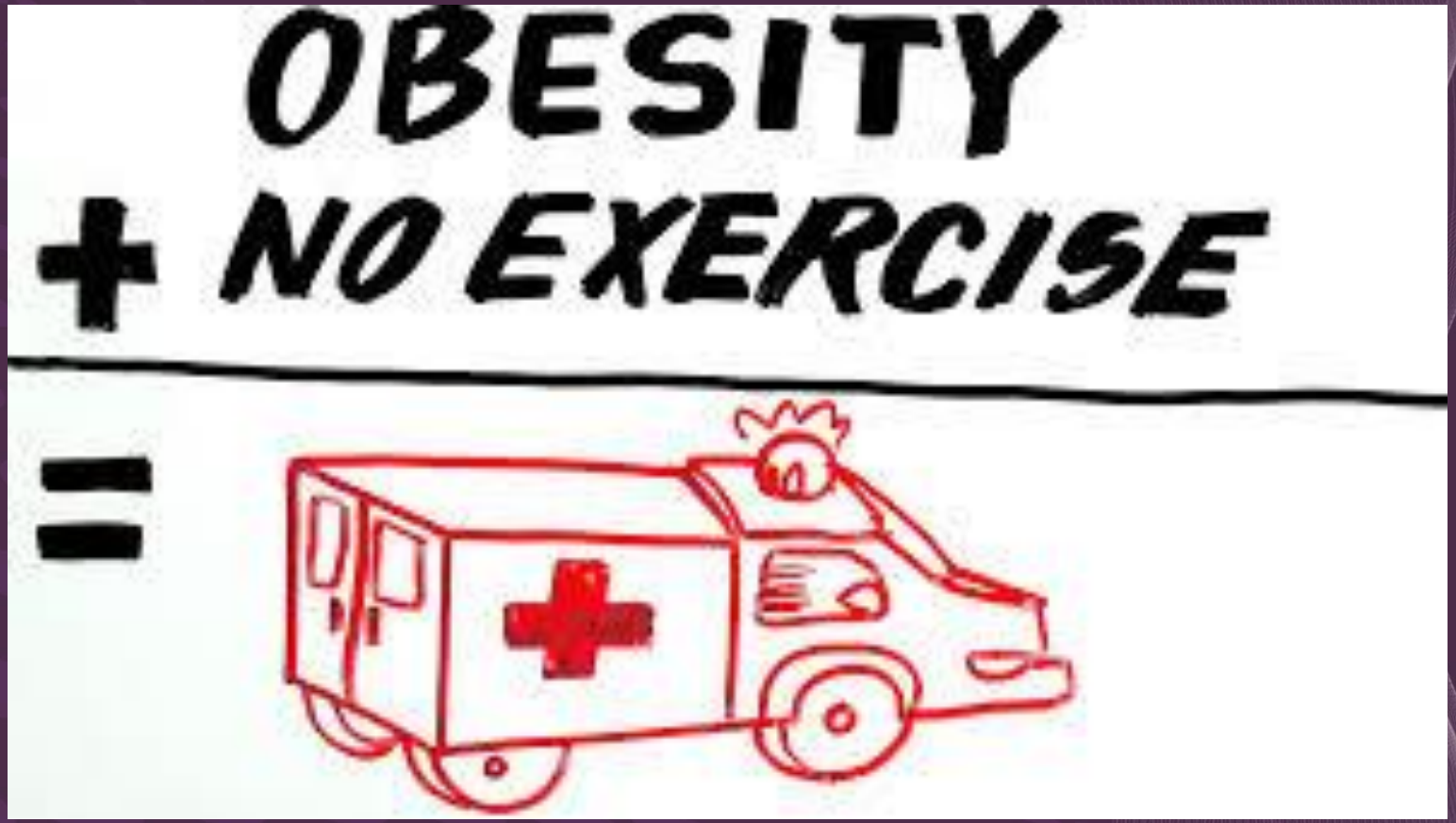
- We therefore recommend that further nutritional education is warranted in this patient population.

- Providing women with pre-natal health and nutritional education could not only maximize good fetal and maternal outcomes, but could also improve **children's future health** and nutritional status.



Conclusion

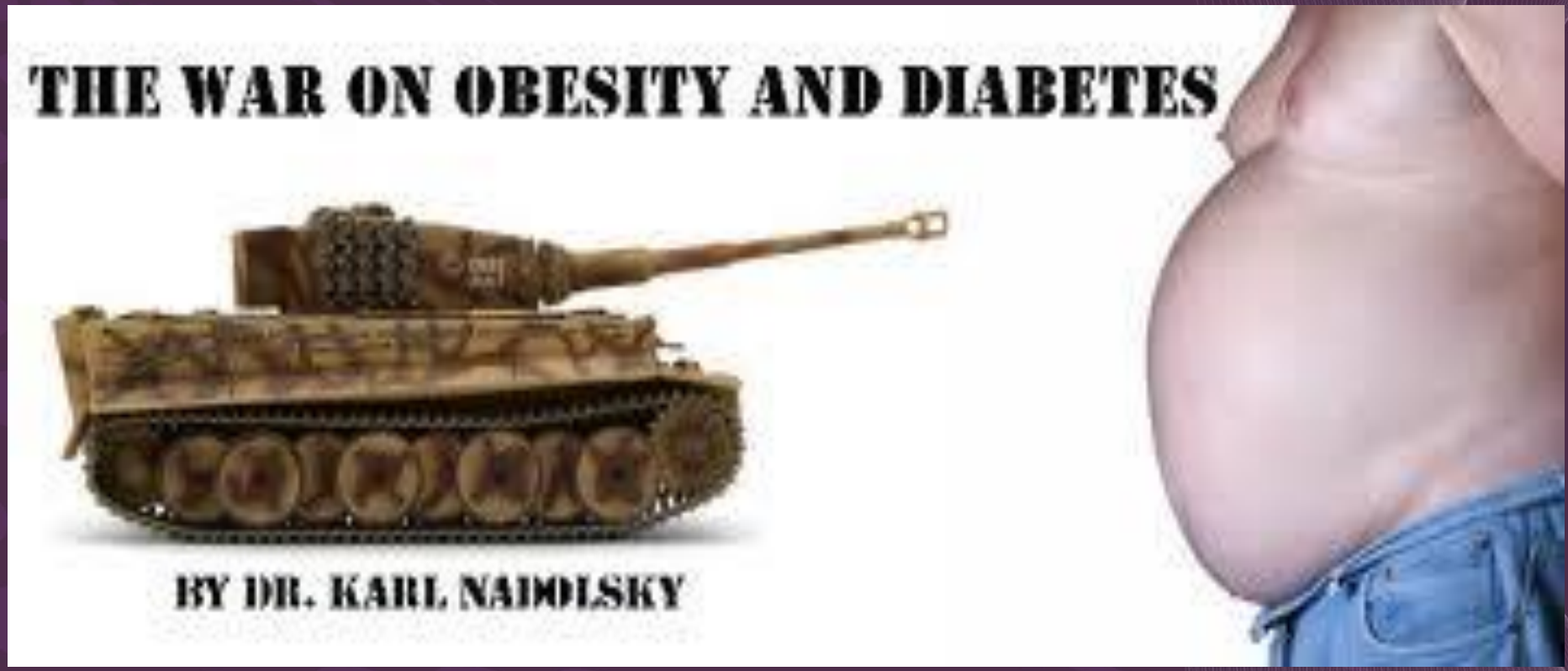
- We evaluated perceptions of healthy lifestyle among women in Saudi Arabia
- A significant proportion exhibited unhealthy eating and lifestyle habits
- Many had misconceptions about what constitutes a healthy lifestyle
- Many were unclear on the dietary requirements recommended during pregnancy
- The majority wanted and would benefit from pre-natal nutritional education


OBESITY
+ NO EXERCISE
=


T E A M
TOGETHER EVERYONE ACHIEVES MORE

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Combatting obesity



Facebook pregnant woman posted this

"Stop complaining about being fat and tired! Make a change.....It's NOT a diet, it's a lifestyle of change.

“fat" IT IS YOUR (OUR) FAULT!..and once you (we) understand that, then maybe *just maybe* things will start to change!!

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Whose fault is Obesity and Unhealthy eating habits?

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Summary

Let's work together to educate our patients on the harms of obesity and the benefits of a healthy life style .




Q & A