

Impact of health education program on knowledge, attitude and practices about obesity and over weight among Saudi girls' in a primary school, Riyadh, Saudi Arabia, 2006.

Childhood and adolescence overweight and obesity have doubled over the last decades in several developing and developed countries. This experimental study was conducted to investigate the prevalence of obesity and overweight among female grade five primary school students' in Riyadh, Saudi Arabia. It also aimed to assess their knowledge, attitude, and practices towards obesity and eating habits, and to evaluate the impact of a health education program on their knowledge, attitude, and practices.

The study was carried out through the following steps: Firstly, an initial assessment (pretest) of knowledge, attitude and practices regarding overweight and obesity, carried out for the whole sample by using a pretest self-administered questionnaire. This initial assessment was considered as baseline evaluation of the program. Secondly, the educational intervention, which was launched as three sessions, and the topics presented included food groups, food pyramid, dietary guidelines, definition of obesity and overweight, the balanced diet, importance of breakfast, fast foods, exercise, benefits of maintaining ideal body weight, complications and risk factors of obesity and overweight and how to avoid them. The objectives of the health education intervention were to build awareness of the benefits of healthy eating, induce positive dietary and exercise behavioral changes, and increase knowledge about nutrition and obesity. Participatory active learning methods were used as educational games, discussion, posters, power point presentation, competitions and gifts, food pyramid model, food models, and prepared snacks. Thirdly, evaluation of the impact of the nutritional education intervention (posttest) was done by another questionnaire.

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The questionnaire used in both the pretest and posttest was designed to elicit socio-demographic data, risk factors of obesity, family history, eating and drinking practices. Each item of the practices question was given a score from 1 to 5, where poor practice was given a score of 1, while good practice was given the maximum score. The alpha reliability of practice questions was 0.78. The total eating practices score ranged from 29-145 points and was leveled as follows: Good dietary practices (107-145), fair (68- 106), and poor (29-67). Regarding drinking practices, the total score ranged from 5-25 points and was leveled as follows: Good (19-25), fair (12- 18), and poor (5- 11). Total score of dietary habits ranged from 12-60 points and was leveled as follows: Good (44 -60), fair (28- 43), and poor (12- 27). Regular physical activity practices was assessed by 5 questions including walking to school; regular physical activity at home, its frequency and duration, as well as other types of activities. Each physical activity practice question was given a score from 1 to 5 with higher score for favorable practices. The alpha reliability of activity practice questions was 0.89. Score ranged from 5-20 points and was leveled as follows: Good (16-20), fair (11-15), and poor (5-10). Knowledge about obesity and overweight was assessed by 20 multiple-choice questions. The alpha reliability of the knowledge questions was 0.85. A correct response was given a score of 1, and an incorrect or don't know response was given a score of 0. The total knowledge score ranged from 0-20 points and was leveled as follows: Good (16 – 20), fair (10 – 15), and poor (0 – 9).

Anthropometric measurements were used to assess the nutritional status of the studied sample, including weight, height, body mass index (BMI); fat percentage, predicted weight, fat gain and fat loss, by using Body Composition Analyzer measurements. This is a tool used for

measuring weight, height, BMI, body fat content, predicted weight (ideal weight), amount of fat that should be gained (fat gain), and amount of fat that should be lost (fat loss). The BMI [weight in kg / (height in meters)²] was used as the measure of body fatness.

One hundred and fifty girls were included in the study. Their ages ranged between 10-12 years (mean 10.7, SD ± 0.5). All had not reached menarche. The majority of their parents were university graduates: 75.3% of mothers and 86% of fathers. Their weights ranged from 23.5-75.3 kg (mean 45.5, SD ±10.7), and heights ranged between 104.5-163 cm (mean 141.6, SD ± 11.4 cm). The fat percent ranged from 8.5-50.8% (mean 30.0, SD ± 1.0 %). The mean predicted weight was (44.7 ± 6.6 kg); 52% needed to gain fat between 0.5 - 10.4 kg (mean 4.3, SD ± 2.4 kg); 48% needed to lose fat between 0.1-18.6 kg (mean 6.3, SD ± 4.5 kg). The BMI ranged from 13.5 - 42.3 kg/m² (mean 22.9, SD ± 6.13); 53.0% of the students were within normal BMI range (BMI 18.5–24.9), and 21.0% were underweight (<18.5). The rest had different grades of obesity: 12% had grade I obesity (BMI 25.0–29.9), 12% had grade II obesity (BMI

30.0–39.9), and 2.0% had grade III obesity (BMI ≥ 40). About one third of the students (34%) had a positive family history of obesity, of which 60.8% among first-degree relatives and 39.2% among second-degree relatives.

Most (86.7%) showed fair score of total Eating Practices at pretest, and all (100%) showed fair level at posttest. Regarding sweets, the lowest mean score was for Chocolate in both pretest (1.83 ± 0.7) and posttest (2.29 ± 0.8). Little improvement in the mean scores for all sweet items was observed at posttest. Regarding meat products, fried chicken nuggets had the lowest mean practice score in both tests, with a mean score of pretest (2.09 ± 0.1) and posttest (2.42 ± 0.9). The mean scores for all meat product items improved at posttest.

For carbohydrate & starch products, the lowest mean score was for pies & Sambosak at pretest as well as posttest, with mean score pretest (1.44 ± 0.6) and posttest (1.73 ± 0.7). Regarding dairy products, the creamy cheese (Kraft) showed very poor practices with a mean score at pretest (2.03 ± 0.1) and posttest (2.41 ± 0.9). Regarding vegetables & fruits, leafy

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Table 1: Impact of health education program on food practices and dietary related habits among girls's in a primary school, Riyadh, Saudi Arabia

	Pre- test		Post-test		Pre Vs Post	P-value
	Mean	SD ±	Mean	SD ±	Paired t - test	
Food practices						
Type of food Score 1-145	78.2	± 4.4	86.6	± 3.9	-38.71	0.000
Type of drink Score 1-25	16.5	± 3.1	13.6	± 3.5	8.08	0.000
Eating Habits Score 1-60	39.0	± 5.3	45.1	± 3.8	-32.23	0.000
Knowledge about obesity & over weigh						
Knowledge of the definition of obesity & good habits to avoid it (Score 0-13)	5.69	± 4.16	12.96	± 0.21	-21.35	0.000
Knowledge of the complications of obesity (Score 0-7)	1.04	± 1.71	6.98	± 0.14	-42.03	0.000

Measles situation in Riyadh region during 2004

A large number of measles cases were reported from Riyadh region, particularly among school age children in May 2004, immediately after the measles vaccination campaign for primary school students. It was feared that this increase may be related to the vaccination campaign.

As a first step, a descriptive study of all the measles cases reported in Riyadh during 2004 was conducted, by reviewing the records and interviewing patients. This was followed by a case-control study to identify the associated risk factors. A case was defined as any person living in catchment area, who presented during 2004 with generalized maculopapular rash lasting 3 or more days, elevated temperature 38.3°C or higher, with cough, coryza or conjunctivitis and confirmed by positive serologic test for IgM. A control was defined as any person who never had symptoms suggestive of measles during 2004 and lived in the catchment area of the same Primary health care center from where the case was reported, selected from the family files of the primary health centre.

During the years 2000, 2001, 2002, 2003 the total number of reported measles cases was 95, 18, 56 and 78 respectively; compared to 204 cases in 2004. The mean number of cases for earlier years was 50.67 (95% CI 16.3-85.0), the 204 cases were clearly excess of the +2SE limit for outbreak definition. The maximum number of cases were reported in May 2004, gradually falling afterwards and disappearing by October (Figure 1).

A total of 70 cases were traceable and included in the study; 87.1% were Saudis; 34.3% were under 5 years of age, 40% were 6–10 years old, and 25.7% were over 10; 30% lived in Al-mansourah, 17.1% in Orajja and the rest were scattered over the city. Most of the cases were females (65.7%) and 58.6% were students. Out of 41 students, 17 (42.5%) were from the same girls' school. All of the cases presented with history of fever and skin rash, 64.3% with cough and coryza and 57.1% with conjunctivitis. Thirty percent of the cases developed chest infection, 20% diarrhea, 8.6%

ear problem and 5.7% convulsions. All cases were serologically positive for measles. About 24% were admitted into hospital, and no deaths occurred among them.

Sixty six controls were selected. More than 90% of both cases and controls had history of measles vaccination, while there was a statistically non-significant higher proportion vaccinated among the controls (91.3% & 96.6% respectively; OR 0.37; 95% CI 0.07-1.90). There was no association of vaccination during 2004 and disease status. However, cases had a significantly higher history of contact with a measles case as compared to the controls (64.5% & 8.3% respectively; OR 20.0; 95% CI 6.98-57.33).

- Reported by: Dr. Muslim Abu Hassan, Dr. Abdul Jamil Choudhry (Field Epidemiology Training Program).

Editor's notes: Before introduction of routine measles vaccination in 1983, the incidence of measles infection in Saudi Arabia was alarmingly high. In this study, a large proportion of cases were in the 5-10 year age group, which is consistent with previous studies.^{1,2} The shift in age distribution of cases towards older children is one of the major effects of immunization programs on the epidemiology of the disease due to lowering the exposure rate in the community.³

In 1983, to increase vaccination coverage rates, the measles vaccine was made a requirement for obtaining the birth certificate. Consequently,

coverage increased from 8% in 1980 to 80% in 1984, and to >90% in 1990. Although a remarkable decrease in measles incidence ensued in general, the overall impact of immunization remained unsatisfactory. A substantial number of cases continued to occur in children aged under 9 months, and infection also shifted to older age groups, with a large proportion of cases appearing among previously vaccinated children.^{2,4} In this study, over 90% of measles occurred among immunized individuals. The large number of cases occurring among immunized individuals is related to the level of coverage achieved.³

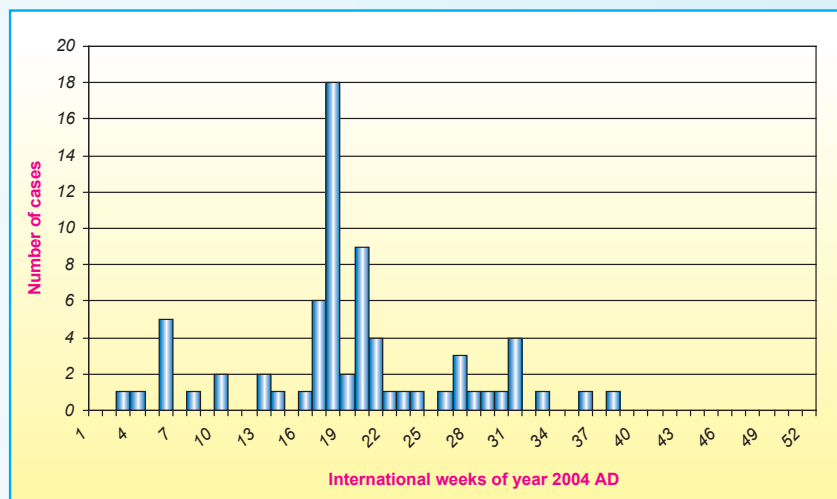
The role of vaccination failure is often difficult to assess. However, the accepted failure rate (derived from serological result) is in the range of 2% to 10%.⁵ It was noted that there was a measles campaign during the time of discovering the increasing number of cases. Although we tried to look for any relationship of cases to a specific vaccine but were not able to do so due to lack of information in the vaccination records of the Primary Health Care Centers, which do not record the batch numbers and the countries of origin of the vaccine. Further, there was no evidence to correlate the measles cases with the measles campaign held in 2004.

References:

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Figure 1: Epidemic curve of measles cases in Riyadh 2004



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bles got the lowest mean score at pretest (3.65 ± 0.8) and posttest (3.37 ± 0.8), while the mean score of fruits was (1.95 ± 0.1) at pretest and (1.49 ± 0.6) at posttest. Fatty traditional foods mean score was (3.57 ± 0.1) at pretest and (3.73 ± 0.9) at posttest. Non Fatty traditional foods had means score of (3.43 ± 0.9) pretest and (3.42 ± 0.9) posttest. In general, there was little improvement in the mean scores for all food items at posttest. The score for drinking milk was (2.15 ± 1.3) at pretest, and (1.65 ± 0.1) at posttest.

Dietary-related habits revealed an improvement at posttest. Eating breakfast at home scored at pretest (2.33 ± 1.3) and at posttest (1.36 ± 0.1). Eating three main meals scored at pretest (2.36 ± 1.3) and at posttest (1.80 ± 0.8). The highest mean dietary-related habits score was for sleeping directly after the main meal at pretest (3.65 ± 1.2) and (3.93 ± 0.9) at posttest.

Concerning the impact of the health education program on the total scores of students' eating and drinking practices and dietary-related habits, the mean practice scores of the posttest was higher than that of the pretest with a marked difference between pretest and posttest. This difference was statistically significant (all p-values < 0.001) for total eating practices, total drinking practices and dietary-related habits.

Regarding physical activity, 52.4% had poor level of physical activity, while 8.1% had good level scores at the pretest. Walking to school was not very common, and scored (4.94 ± 0.5) in both the pretest and posttest. The mean score of physical exercise at least three times a week was (3.45 ± 1.6) at pretest and (2.81 ± 1.5) at posttest.

Regarding knowledge about obesity and overweight, at pretest 38% of the students correctly knew the definition of obesity, increasing to 100% at posttest. Regarding good habits to avoid obesity, the most frequent correct answers reported by students were: increasing physical activity and regular exercise 56%, followed by avoiding carbonated beverages 53.3%, then avoiding fast foods 50.7%. The least frequent correct answers were for: dieting should be supervised by dietitian 35.3%,

regularly weighing yourself 36.0%, and avoiding chocolates, sweets and nuts in snacks 36.0%. Regarding knowledge of complications of obesity and overweight, the percentage of correct answers ranged from 8.7 to 20% at pretest. After the intervention, the percentage of correct answers improved for all knowledge items, between 99.3 to 100%.

Regarding impact of the health education program on student's knowledge about obesity and overweight, the mean total knowledge score at posttest was higher than that of the pretest with a markedly statistically significant difference ($p < 0.000$).

More than half of the students were unsatisfied with their current weight at both pretest (56.7%) and posttest (57.3%). Most of the students (60%) had thought about reducing their weight. The major reason stated was to avoid teasing and bad comments from others (33.3%) at pretest, and (27.8%) at posttest. Only 3.3% of the students at pretest contemplated reducing their weight to avoid complications of obesity, as compared to 35.6% at posttest, where this was found to be the major reason for reducing weight. Most of the students were advised by their parents to reduce their weight (57%), while 8.3% only thought of reducing their weight following a doctor's advice. Almost half (47.8%) were reducing their weight by dieting, either on their own or by their families help.

In the multiple regression analysis of factors influencing total practices & Anthropometric Measurements after implementing the educational intervention, out of fourteen examined variables, only three were significant. The first was height; then weight, then BMI. For factors affecting total knowledge among the students before and after implementing the intervention, six factors entered the regression: age, mothers' occupation, fathers' occupation, educational level of mother, and educational level of father, but none were statistically significant.

- **Reported by: Dr. Aziza Donques, Dr. Randa Nooh (Field Epidemiology Training Program), Dr. Ensaf Abdul Jawad (Department of Nutrition, College of Allied Medical Sciences, King Saud University).**

Editorial notes: Obesity is a public health problem worldwide and has been proposed as the most frequent cause of preventable deaths after smoking. Its increasing prevalence has compelled the WHO to include it on the list of the essential health problems in the world.^{1,2} Development of obesity and excess weight in childhood are associated with a simultaneous increase in the chronic diseases risk profile.³

Economic development in the Kingdom of Saudi Arabia has influenced nutritional and lifestyle habits of the people. The combined prevalence of overweight and obesity has been estimated around 27.5% among boys (11.7% overweight and 15.8% obese) between 6-18 years of age in 1996, and 28.0% among girls between 12-19 years in 1999.⁴ A study investigating the change in overweight and obesity among schoolchildren and adolescents in Jeddah using data from the years 1994 and 2000 showed a rise in the BMI for both sexes at the 50th percentile, and higher still at the 85th and 95th percentiles. The increases in BMI were marked for all age groups; with boys showing the largest increase among the 10-16 years age group.⁵ The overall prevalence of obesity in our study was 26%, which is slightly lower than that previously reported.

The increase in obesity prevalence among Saudi children and adolescents reflects a population shift toward positive energy balance. Sedentary lifestyle and calorically dense food consumption have become increasingly popular, with physical activity and sports being substituted by television viewing and computer games.⁶

In the present study, family history of obesity was reported by 34%. It is well known that parental obesity is the most important risk factor of childhood obesity. More than half of the students (52.4%) had a good level of physical activity at pre and posttests. This can be attributed to the availability of lessons and facilities at this private school for physical training. This is not the case in most Saudi girls' schools, particularly governmental schools.

Effectiveness of home blood glucose monitoring in controlling type II Diabetes mellitus

Diabetic patients play an important role in their medical care by controlling their lifestyle and medications. Testing blood glucose level at home gives immediate feedback, thus allowing diabetics to work with their health care provider to alter their treatment plan when required. This study aimed to find out the proportion of diabetic patients who used home blood glucose monitoring, and to assess the effectiveness of its use on controlling type II diabetes mellitus.

A cross-sectional study was conducted in a sample of type II diabetic patients following up at the diabetic clinics of two hospitals in Riyadh (King Abdul Aziz and King Khalid University Hospitals). Data was collected by direct interview of patients and documenting the last recorded level of HbA1C from their files.

The total number of interviewed diabetic patients was 300; with mean age of 53.2 years (SD \pm 9.95); 55.0% were illiterate; 66.0% were house wives; 19.0% were retired employees; and 93.0% had diabetes mellitus duration between 6-10 years.

The majority of diabetics in our study sample (64.0%) were on oral hypoglycemic agents, insulin alone was used by 22.0%, 13.3% were on both insulin and oral hypoglycemic, and 0.7% were under dietary control. Of the total, 66.3% had chronic diseases other than diabetes mellitus.

Less than half (48.3%) of the interviewed patients used home blood glucose monitoring kits, 51.7% of who used it according to doctor's advice. Their duration of use ranged between 1-5 years (73.8%); 52.0% checked their blood glucose by themselves, and 46.9% checked it by the help of others; 41.0% monitored their blood glucose when needed, 29.8% once a day, 17.9% twice a day, and 11.3% three times a day. However, only 9.7% recorded their blood glucose level after they had read it from the monitor; and only 55.9% had received teaching on how to use it.

Regarding the last recorded HbA1C levels in the patients' files, 30.0% of the total study population had levels ranging from 4.2 – 7.2; 50.3% between 7.3 – 10.2; and 19.7% had levels of 10 or more.

Of the 145 diabetics who monitored their blood glucose level at home, only 28.6% had abnormal HbA1C level, compared to 71.4% among those who did not, and the difference was statically significant (OR= 4.86, CI 2.37-10.28).

Factors that influenced using the home blood glucose monitor were educational level (OR= 2.98, 95% CI 1.75-5.19), and employment status (OR= 3.09, CI=1.67- 5.89).

- Reported by: Dr. Badria Al- Malki, Dr. Aziza Donques, Dr. Randa Nooh (Field Epidemiology Training program).

Editorial notes: Diabetes mellitus (DM) is an increasing health problem over the world. In the kingdom of Saudi Arabia, a community-based survey conducted among Saudi subjects in the 30- 70 year age group over a 5-year period estimated that the overall prevalence of DM was 23.7%, with 90% suffering from type II DM.1

In 2005, the WHO stepwise surveillance of non-communicable diseases in Saudi Arabia among adults 15 to 65 years of age, estimated that the prevalence of diabetes mellitus was 19.2% among males and 16.6% among females.2

Strict Glycemic control is important in delaying the onset and slowing the progression of complications of Diabetes Mellitus. Home glucose monitoring is, therefore, an opportunity for patients

with type II diabetes to control their own blood glucose level.

Aglycosylated hemoglobin (HbA1C) is measured in the blood of diabetics to estimate the average blood glucose level within the three months prior to the test. It is currently one of the best ways to check diabetes control, and should be done at least twice a year. The goal of DM control is to keep HbA1C level under 7%. Higher values reflect poor glycemic control, and indicate a greater risk of diabetic complications. This is especially true if the HbA1C level remains elevated on more than one occasion.3

In this study, almost half of the studied population used home blood glucose monitoring. A much higher proportion of those who used home blood glucose monitoring had HbA1C levels within normal limits compared to those who did not. However, it was noted that only 9.9% who used the monitor recorded their blood glucose level after reading it. For benefit from home glucose monitoring, it is imperative to record the result after monitoring to show to the attending doctor or diabetic educator for keeping or altering the treatment plan.

The study demonstrates that home blood glucose monitoring may be one of the important measures in controlling DM.

References:

1. Al- Nozha MM, et al. Diabetes mellitus in Saudi Arabia. SMJ 2004; 25(11): 1603- 10.
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Table 1: Effect of home blood glucose monitoring on HBA1C level

HBA, C level	N	Home blood Glucose monitoring		OR	IC %59
		Yes	N		
Normal	89	66.3%	33.7%	4.86	2.37-10.28
Abnormal	56	28.6%	71.4%		

ملخص باللغة العربية

تأثير برنامج تثقيف وتوعية صحية على المعلومات والتوجهات والممارسات المتعلقة بالسمنة لدى تلميذات الصف الخامس الابتدائي بمدرسة بالرياض، ١٤٢٧هـ

تعد السمنة مشكلة صحية في جميع أنحاء العالم، وقد تضاعفت نسبتها بشكل كبير خلال العقود الماضية. ومن أهم أسبابها السلوكيات الغذائية الخاطئة، الحياة الخاملة، إضافة إلى العوامل النفسية والسلوكية و الوراثية. أجريت هذه الدراسة لمعرفة مدى تأثير برنامج تثقيف وتوعية صحية على المعلومات والتوجهات والممارسات المتعلقة بالسمنة لدى تلميذات الصف الخامس الابتدائي. هدفت الدراسة إلى تقييم مدى معرفة الطالبات عن زيادة الوزن والسمنة بصفة عامة، تقييم تأثير برنامج تثقيف وتوعية صحية على معلوماتهن وممارساتهن المتعلقة بالسمنة، و دراسة معدل انتشار زيادة الوزن والسمنة بينهن.

قام فريق من برنامج الوبائيات الحظلي بدراسة مقطعية وتجريبية شملت برنامج تثقيف صحي. وقد تم إجراء تقييم لمعلومات الطالبات وممارساتهن قبل وبعد البرنامج التثقيفي من خلال استبيان مكون من شقين: الأول شمل المعلومات التعريفية بالطالبة، كما تضمن أسئلة عن الطرق الصحيحة لتجنب السمنة، والثاني اشتمل على أسئلة عن معرفة الطالبات ومعتقداتهن عن السمنة ومضاعفاتها، ممارسات إنقاص الوزن، الأنشطة والتمارين الرياضية، والعادات والأنماط الغذائية لديهن. وقد أخذت قياسات الوزن والطول لحساب مؤشر كتلة الجسم (مؤشر السمنة BMI) لمعرفة معدل انتشار زيادة الوزن والسمنة بين الطالبات. استهدفت الدراسة الفتيات في مرحلة ما قبل البلوغ بين ١٠ إلى ١٢ سنة من العمر.

اشتملت العينة على ١٥٠ طالبة، متوسط أعمارهن ١٠,٧ (٠,٥ ±) سنة، متوسط أوزانهم ٤٥,٥ (١٠,٧ ±) كغم، و متوسط أطوالهم ١٤١,٦ (١١,٤ ±) سم. أما متوسط مؤشر كتلة الجسم BMI فكان ٢٢,٦ (٦,١٣ ±) كيلو غرام/ مترمربع. مؤشر كتلة الجسم كان في المعدل الطبيعي بين ٥٣% من الطالبات أي بين ١٨,٥-٢٤,٩، وأقل من المعدل الطبيعي بين ٢١,٠% (أقل من ١٨,٥). أما الباقي فكان يعانين من درجات متفاوتة من السمنة، فكان ١٢% يعانين من سمنة من الدرجة الأولى (مؤشر كتلة الجسم ٢٥,٠ إلى ٢٩,٩)، و ١٢% أخريات يعانين من سمنة من الدرجة الثانية (مؤشر كتلة الجسم ٣٠,٠ إلى ٣٩,٩)، و ٢% كن يعانين من سمنة من الدرجة الثالثة (مؤشر كتلة الجسم ≤ ٤٠). كما أن ٢٧,٣% من الطالبات كان لديهن تاريخ عائلي للسمنة.

أوضحت الدراسة أن ٢,٧% من الطالبات لديهن مستوى جيد من المعرفة المتعلقة بالسمنة وطرق تجنبها، بينما ٤,٠% كان لديهن مستوى جيد من العادات الغذائية، و ٨,١% لديهن مستوى جيد من ممارسة الأنشطة والتمارين الرياضية.

وجد أن ٦٠% من الطالبات لديهن الرغبة في

إنقاص أوزانهم، ٣٣,٣% منهن كان غرضهن تجنب تعليقات الآخرين. كانت أكثر ممارسات إنقاص الوزن شيوعاً (٤٧,٨%) اتباع حمية غذائية عن طريق مساعدة الأهل. غالبية الطالبات (٦٣,٣%) كن قد تلقين نصائح من الوالدين لإنقاص أوزانهم.

أظهر تقييم تأثير البرنامج التثقيفي حدوث تحسن كبير لدى الطالبات فيما يتعلق بالعادات والأنماط الغذائية المتبعة، والمعرفة المتعلقة بمفهوم السمنة لديهن وأسبابها ومشاكلها والطرق الصحيحة لتجنبها.

تمت التوصية على أن تشمل المناهج الدراسية شرح لمفهوم السمنة عند الأطفال وأسبابها ومشاكلها، إضافة إلى التثقيف والتوعية الغذائية الصحية للطالبات والطلاب. يوصى بعمل دراسة مماثلة على عينات أكبر من طالبات المدارس الابتدائية الحكومية.

● اعداد: د. عزيزة دنقس، د. رائد نوح (برنامج الوبائيات الحظلي).

الحصبة في مدينة الرياض

لوحظ ازدياد غير عادي في حالات الحصبة المبلغة في منطقة الرياض خلال عام ٢٠٠٤ م. في الأربعة أعوام السابقة كان العدد الكلي لحالات الحصبة المبلغة كما يلي: عام ٢٠٠٠ كان العدد ٩٥ حالة، عام ٢٠٠١ كان ١٨ حالة، عام ٢٠٠٢ كان ٥٦ حالة، عام ٢٠٠٣ كان ٧٨ حالة، بينما في عام ٢٠٠٤ وصل العدد إلى ٢٠٤ حالة.

أعداد كبيرة منهم كان بين طلبة المدارس خلال شهر مايو. وقد لوحظ هذا الازدياد بعد حملة التطعيم بلقاح الحصبة بين طلاب المدارس الابتدائية في الرياض. تم عمل دراسة وصفية لحالات الحصبة ثم دراسة للحالات المرضية مع الحالات الضابطة. هدفت الدراسة إلى التعرف على الخصائص الوبائية للحالات، التعرف على عوامل الخطورة لزيادة عدد الحالات، والتوصية على إجراءات لمنع حدوث المرض والتحكم فيه.

تم تعريف الحالة المرضية بأي شخص يعيش في منطقة الرياض وكان يعاني من طفح جلدي مستمر لمدة ٣ أيام أو أكثر، ارتقاع في درجة الحرارة $\geq 38,3$ م أو أكثر، مع كحة وزكام أو التهاب في ملتحة العين. تم تأكيد التشخيص بتحليل إيجابي للأجسام المضادة (IgM). تم تعريف الحالة الضابطة بأي شخص لم يعاني أبداً من أعراض اشتباه مرض الحصبة خلال هذا العام ويعيش في نفس منطقة الحالة المرضية التابعة لمركز الرعاية الأولية.

تم الوصول إلى ٧٠ حالة حصبة، ٦٥,٧% من الإناث، و ٨٧,١% سعوديين، ٣١,٤% كانوا أقل من ٥ سنوات، ٢٥,٧% بين ٥-٩ سنوات، ٣٧,١% بين ١٠-١٤ سنة و ٥,٧% أكبر من ١٥ سنة. ثلاثين بالمائة من الحالات ظهرت في حي المنصورة، ١٧,١% في العريجة والبقية متفرقون في أنحاء منطقة الرياض. الطلاب شكلوا ٥٨,٦% من الحالات، ٥٧% كانوا من المدارس الابتدائية، و ٤٢,٥% كانوا من مدرسة ابتدائية للبنات.

كل الحالات المرضية أصيبت بأعراض ارتفاع في درجة الحرارة وطفح الجلدي، ٦٤,٣% كحة

وزكام، و ٥٧,١% التهاب ملتحة العين. بالنسبة إلى المضاعفات، ٣٠% أصيبوا بالتهاب رئوي، ٢٠% إسهال، ٨,٦% مشاكل في الأذن، ٥,٧% تشنجات. كل الحالات كانت ايجابية للأجسام المضادة (٢٤% IgM)، تنويمهم بالمستشفى ولم تحدث أي حالة وفاة.

تم الوصول إلى ٦٦ حالة ضابطة، من الإناث ٦٢,١%، السعوديين ٩٨,٥%، والطلاب ٥٧,١%، ٣٤,٨% كانوا أقل من ٥ سنوات، ٣٣,٣% بين ٥-٩ سنوات، ٢٥,٨% بين ١٠-١٤ سنة و ٦,١% أكبر من ١٥ سنة.

بالنسبة إلى التطعيم للقاح، ٩١,٣% من الحالات المرضية و ٩٦,٦% من الحالات الضابطة كانوا قد تلقوا جرعة واحدة على الأقل من لقاح الحصبة. من الحالات المرضية، ٨,٧% تلقوا ثلاث جرعات، ٣٠,٤% جرعتين، ٥٢,٢% جرعة واحدة و ٨,٧% لم يتلقوا أي جرعة. من الحالات الضابطة، ٣٩% تلقوا جرعتين، ٥٧,٦% جرعة واحدة و ٣,٤% لم يتلقوا أي جرعة.

وجد أن ٣١,٤% من الحالات المرضية كانوا قد تلقوا لقاح الحصبة خلال عام ٢٠٠٤ مقارنة ب ٣٤,٧% من الحالات الضابطة، ولم يكن الاختلاف بينهما ذا دلالة إحصائية. من بين الحالات ٦٤,٥% كانوا قد اختلفوا بمرض الحصبة مقارنة ب ٨,٣% من الحالات الضابطة مع نسبة خطورة ذات دلالة إحصائية.

وجد أن تفشي وباء الحصبة يرجع سببه إلى تجمع الأشخاص المعرضين للخطر ويتضمن هؤلاء الأطفال المطعمين بدون وجود حماية أولية بسبب فشل اللقاح أو بسبب عدم قدرة الجسم بناء مناعة ضد الفيروس أو بسبب تجمع الأطفال الغير مطعمين. أيضاً فإن الفعالية المنخفضة للقاح في الأطفال الذي تقل أعمارهم عن ست سنوات يمكن إرجاع سببه إلى تلقي اللقاح في سن مبكرة عند ٦ أشهر من العمر، حيث تعادل الأجسام المضادة من الأم هذا اللقاح.

وجد من خلال الدراسة أن ٣٤,٣% من الحالات المرضية كانوا أقل من ٥ سنوات وقد يكون مصدر العدوى لديهم هم إخوانهم في المدارس، ولقد وجدت علاقة وثيقة بين حالات الحصبة وتاريخ الاختلاط بحالات مؤكدة.

وجد أن ٩١,٣% من الحالات المرضية حدثت في الأشخاص المطعمين ويرجع هذا إلى مستوى التغطية بالتحصين فمن المعروف أنه كلما زادت نسبة التغطية زادت عدد الحالات ضمن الأشخاص المطعمين.

كانت هناك حملة للتطعيم ضد الحصبة بين طلاب المدارس تزامنت مع اكتشاف هذا الوباء، ولكن لم تظهر الدراسة أي دليل يربط بين هذه الحملة وتفشي الحصبة في ذلك الوقت.

تم التوصية على إجراء حملات تطعيم كل ٣ أو ٥ سنوات لتغطية كافة الأطفال بغض النظر عن سابقة المرض أو التطعيم، مع الأخذ بعين الاعتبار الأشخاص البالغين، إجراء دراسات لمعرفة الوضع الوبائي والمناعي لمرض الحصبة بأملكة وبخاصة الاستجابة المناعية لمعدل التطعيم العالي.

● اعداد: د. مسلم أبوحسن، د. عبدالجليل شودي (برنامج الوبائيات الحظلي).

Impact of health education program, cont...

(Continued from page 4)

The prevalence of obesity documented in this study cannot be generalized because of the limitation of its being conducted in one private school, which understandably suggests that the students are from a more affluent social and economic background. However, the study shows evidence that dietary changes are possible in the context of school based health education.

Primary prevention and successful treatment of obesity requires the extensive involvement of many sectors of society. A national prevention program with involvement of schools is recommended to increase knowledge among children and adolescents. A concentrated and sustained effort is needed to focus on broad environmental changes and community support for healthy behaviors; the commitment of families is critical.

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Inside the Kingdom

March 16, 2006: Osteoporosis: Are we missing an opportunity?

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Email: ptc1@nghi.med.sa

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Outside the Kingdom

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Venue: Bibliotheca Alexandrina, Alexandria, Egypt.

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Measles situation in Riyadh, cont...

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e-mail: nhamdan@fetsp.edu.sa
Website: www.fetsp.edu.sa

Department of Preventive Medicine:

- **Dr. Khalid Al-Zahrani**
Assistant Deputy Minister for Preventive Medicine, and SEB Supervisor
- **Dr. Nasser Al-Hozaim**
General Director, Parasitic and Infectious Diseases Department
- **Dr. Amin Mishkhas**
Director, Infectious Diseases Department

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Selected notifiable diseases by region, Jan - Mar 2006

	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jizan	Najran	Baha	Al-Jouf	Goriat	Gonfuda	TOTAL
Measles	4	4	53	3	1	1	0	0	1	1	0	1	0	1	11	2	0	0	0	0	83
Mumps		2	4	2	1	3	2	1	4	0	2	0	0	0	5	0	0	0	0	0	26
Rubella	0	0	2	0	1	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	6
Varicella		296	1765	918	323	1757	1063	1172	428	966	396	576	175	132	154	333	46	270	56	26	12693
Meningitis mening.	3	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Meningitis other		2	26	6	9	8	1	8	3	2	0	13	2	0	1	0	0	2	0	0	105
Hepatitis B	143	33	311	68	14	71	106	9	1	34	15	93	9	4	31	11	0	30	0	12	995
Hepatitis C		16	308	27	5	30	67	9	0	24	15	41	1	3	6	0	0	14	0	4	692
Hepatitis unspecified	16	0	14	0	0	0	2	4	0	9	0	19	0	0	180	0	0	0	0	2	246
Hepatitis A		61	45	63	1	236	12	23	18	47	1	96	45	23	118	69	0	1	2	0	902
Typhoid & paratyphoid	1	6	1	2	0	0	4	9	0	6	1	3	4	9	5	0	0	0	0	0	51
Amoebic dysentery		0	518	7	9	2	33	19	5	42	25	0	11	0	15	1	0	3	0	0	717
Shigellosis	5	0	3	0	0	3	1	4	1	0	1	3	0	1	0	12	0	1	0	0	35
Salmonellosis		5	25	5	0	4	56	11	6	11	8	17	0	0	0	22	0	10	0	0	230
Brucellosis	128	1	4	28	56	166	66	10	71	242	35	14	159	28	20	18	7	6	0	4	1063

Comparisons of selected notifiable diseases, Jan - Mar 2005-

DISEASE	Jan-Mar 2006	Jan-Mar 2005	Change %	Jan-Mar 2006	Jan-Dec 2005	DISEASE	Jan-Mar 2006	Jan-Mar 2005	Change %	Jan-Mar 2006	Jan-Dec 2005
Cholera	0	1	-100	0	12	Meningitis mening	3	4	-25	13	18
Diphtheria	2	4	-50	2	7	Meningitis other	129	117	10	234	510
Pertussis	2	5	-60	2	21	Hepatitis B	1177	1096	7	2172	4209
Tetanus, neonat	5	6	-17	5	22	Hepatitis C	821	676	21	1513	2674
Tetanus, other	3	3	0	3	10	Hepatitis unspecified	272	300	-9	518	1179
Poliomyelitis	0	0	0	0	0	Hepatitis A	732	685	7	1634	2461
Guillain Barre Syndrome	24	23	4	24	103	Amoebic dysentery	94	126	-25	145	325
Measles	83	75	11	83	373	Amoebic dysentery	681	792	-14	1398	2806
Mumps	26	43	-40	26	115	Shigellosis	33	40	-18	68	198
Rubella	6	1	500	6	18	Salmonellosis	447	354	26	677	1349
Varicella	12693	13546	-6	12693	45389	Brucellosis	1294	1159	12	2357	3804

Diseases of low frequency, Jan - Mar 2006

Yellow fever, Plaque, Poliomyelitis, Rabies, Haemolytic Uraemic Syndrome: No Cases

Pertussis: 2 Cases (Hasa); Neonatal Tetanus: 5 Cases (Jeddah 4, Makkah 1)

Ecchinococcosis: 4 Cases (Asir 3, Jouf 1)

Guillain Barre Syndrome: 24 Cases (Riyadh 6, Jeddah 5, Eastern 4, Qassim 3, Jouf 2, Madinah 1, Taif 1, Najran 1, Qurriat 1)