is 3.9%, 10.9%, and 5.7% at 6.5, 13.5 and 17.5 years of age in comparison with their age matched children whose BMI 0.7%, 2.2% and 0.8%. This may be related to the lack of activity among Jordanian school boys living in the urban region and the tendency to stay at home where an increased amount of time is being spent viewing television as a pastime and less time spent in sport activities. It has been reported that decreasing television, videotape and video game use may be a promising population-based approach to prevent childhood obesity.[7] It is open to question if large size is advantageous. Although in the recent past, the best nutrition has often been equated with the most food that can be obtained, it is now accepted that too much may be harmful as too little.[8] As these schools are open to all sectors of the population, we have no reason to believe that our children are different from the rest of school children in the country. It is hoped that the present study will encourage the health authorities in Jordan to conduct national growth studies in the country aiming towards constructing national standards for growth of Jordanian children to replace the international reference growth charts in current use.

In conclusion, the study has shown that there is a higher poverty in the Badia region and there was a tendency for boys in urban regions to be obese. Thus, by improving the socioeconomic conditions, family planning, health education regarding obesity and genetic education with regards to consanguinity, our children may grow better to achieve their genetic potentials for growth.

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The prevalence of hepatitis B carrier state in Khorassan province of Iran

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It was predicted that at least 400 million cases of hepatitis B chronic infection occurred by the year 2000 worldwide,[1] and now the figure has risen beyond this limit. According to the Center for Disease Control and Prevention (CDC) fact sheets, published on its website, hepatitis B infection has an acute case fatality rate of 0.5-1% and 2-10% of cases end up in chronic infection after 5 years. Premature mortality from chronic liver disease occurs in 15-25% of chronically infected persons, pointing to the importance of this global concern. In Iran, several studies have been performed to determine the prevalence of hepatitis B carrier state. In 1980s, almost 3% of population was affected, differing from a prevalence rate of 1.7% in Fars province to 5% in Sistan-Balouchestan province.[2] Fifty-one to 56% of Iranian cirrhotic patients were hepatitis B surface antigen (HBsAg) positive,[3,4] pointing to the importance of this infecting agent and its socio-economic burden in this country. With respect to the importance of this virus and its devastating consequences on society, for the first time in 1998, in a study that was performed in healthy population of Khorassan province, Iran, we tried to determine the prevalence of hepatitis B carrier state. Khorassan is the biggest province of Iran and it is located in the northeast.

This was a cross-sectional descriptive and quantitative study that was conducted on healthy population of Khorassan province in Iran in 1998. The subjects were in the age-range of 2-100 years from both genders. With regard to estimated prevalence of hepatitis B carrier state, a sample number of 4528 was considered to result in a meaningful outcome at the statistical significant level of 95%. According to the distribution of population, and based on the list of the places under the observation of the medical centers and traveling teams in rural areas and according to the list of the families who were vaccinated against poliomyelitis in 1996 in urban areas, the population under study was divided into 164 randomly selected sample clusters with 8 families in each cluster, 97 clusters were from urban and 67 clusters from rural areas. The data was obtained through completion of a questionnaire and taking blood samples, which were later examined in a medical laboratory in the center of province, detecting HBsAg by enzyme-linked immunosorbent assay (ELISA) method. We finally calculated the prevalence of carrier state in 100 patients

Table 1 - Number of hepatitis B surface antigen positive cases in each age group.

Age group (years)	Frequency of investigated people	Frequency of patients	n of cases per 100 people
2 - 10	1064	21	1.97
11 - 20	1217	35	2.87
21 - 30	751	34	4.52
31 - 40	552	33	5.97
41 - 50	362	13	3.59
51 - 60	226	7	3.09
61 - 70	217	7	3.22
71 - 80	122	13	10.65
81 - 90	13	0	0
91 - 100	4	0	0
Total	**4528**	**163**	

Table 2 - Marital status and location of patients

Marital status and locations	General population n (%)	HBsAg positive cases n (%)
Urban areas	2676 (59.1)	91 (55.8)
Rural areas	1852 (40.9)	72 (44.2)
Married (≥15 years)	(69)	103 (80.5)
Single (≥15 years)	(25.9)	20 (15.6)
Widowed (≥15 years)	(4.5)	5 (3.9)

HBsAg - hepatitis B surface antigen

in each age group and compared them with each other. The data was analyzed, using chi-square method and frequency tables to determine possible statistical relations by Statistical Package for Social Sciences software. Using ELISA method, HBsAg was positive in 163 cases (3.6%). Male patients constituted 51.5% (84 out of 163) and female patients 48.5% (79 of 163) of all patients, resulting in an almost equal male to female ratio. The prevalence of hepatitis B carrier state was similar in 2 genders (P=0.792). The average age of HBsAg positive cases was 31.67, with a medium of 29 years and mode of 24 years. In this study the youngest patient was a 2-year-old and the oldest was a 78-year-old. The largest number of cases was observed in the age range of 11-20 years, with 35 positive cases **(Table 1)** with most cases being within the age range of 20-40 years. Despite, the most prevalent age of carrier state was 71-80 years age group, with 10.65 patients in each 100 people **(Table 1).** A statistically significant difference in prevalence of carrier state in different age groups mentioned in **Table 1** was observed among our patients (P=0.000). **Table 2** demonstrates the marital status and locale of residence of our patients, there was no statistically significant difference in the place of residence and marital status of cases.

Depending on the prevalence of carrier state in a region, 3 levels of endemicity have been recognized for hepatitis B chronic infection. In high prevalence areas (≥8% of population affected), which constitutes 45% of global population, the lifetime risk of infection is >60% and early childhood infection is common. In intermediate prevalence areas (2-7%) which constitutes 43% of global population, the lifetime risk of infection is 20-60% and infection occurs in all age groups (CDC fact sheets). Middle-eastern countries except Kingdom of Saudi Arabia and Jordan have an intermediate prevalence rate. Iran has an intermediate prevalence of hepatitis B chronic infection, according to CDC. The prevalence of chronic carrier state in Iran had been reported to be 3% in 1980s.[5] The neonatal vaccination program launched in 1992 was not expected to change these figures for the general population before the year 2002. A recent study showed that the rate of hepatitis B carriers varied between zero and 3.9% with an average of 1.7%.[6] Therefore, it seems that currently CDC reports overestimate the rate of chronic infection in Iran. In this study, 3.6% of the population was HBsAg positive, putting Khorassan among the highly affected areas of Iran. With regard to the fact that the most common routes of transmission in this country have been prenatal transmission and intravenous drug abuse,[2] since the beginning of introduction of hepatitis B vaccine in "Expanded Program on Immunization" in Iran, it seems that the average age of the infected individuals have increased. When normalizing for the distribution of population, the highest prevalent age was 71-80 years age group in this study, demonstrating a significantly higher number of cases in comparison with other groups. In another study that was performed in different parts of Iran, older males living in a village with low socioeconomic status, poor sanitation and intrafamily contact were mostly infected.[6]

In this study, males and females were involved equally. Marital status and place of residence did not have any effect on distribution of carriers. Though, urban areas and married individuals were more affected with the infection. Our findings in this regard contrast the findings of previous studies on prevalence and socio-demographic distribution of cases.[6] By the way, results of studies about the mentioned factors are highly variable and this may result from differing socio-economic structure of a given location. For example, in two separate studies in Tanzania and Italy, no difference was observed in sexual prevalence of hepatitis B carrier state,[7,8] but in another study in Japan it has been more prevalent in males rather than females.[9]

Also, in Pellizzer et al[7] study in Tanzania, most of the cases were reported to be located in urban areas and in crowded families but in the study performed by Chiaramonte et al[8] in Italy, living area did not affect the prevalence rate of carrier state. To sum up, hepatitis B vaccination program and specific sociodemographic features of this region seem to have resulted in shifting up the average age of hepatitis B carrier state in Khorassan province. Although the most prevalent routes of transmission in Khorassan province have been prenatal and close household contact; further preventive measures aimed at this mainly young and middle aged population is needed to decrease the rate of disease propagation in society.

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Fine needle aspiration of the breast: A call for an organized service

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An outpatient fine needle aspiration (FNA) clinic at Prince Abdulrahman Al Sudairy Central Hospital, Sakaka Al-Jouf, Kingdom of Saudi Arabia (KSA), has been in place since 1994. The unit is performing FNA of the breast, thyroid, lymph-nodes, salivary gland masses, soft tissue masses and bone lesions. A pathologist takes FNAs, supervises the staining and reports on them. The majority of the cases are referred directly from the specialist clinics and are reported on the same day. Over a period of 8-years, expertise has been gained and FNA has become an integral part of the initial work-up of all superficial masses. During these 8 years (1994-2002), 276 women underwent FNA of the breast in this hospital. Their age ranged from 15-90 years with a mean of 42. Five reporting categories were used; 1. Inadequate, 2. Benign, here a diagnosis of specific condition was offered for example fibroadenoma, fat necrosis, duct ectasia, mastitis, if enough features were present to establish it with confidence, 3. Atypical hyperplasia, probably benign, 4. Suspicious, 5. malignant.

The FNA smears from 276 patients were reported as inadequate in 6.5 %, benign in 80%, atypical hyperplasia (probably benign) 1.5%, suspicious 0.7% and malignant in 11.3%. All the reported malignant cases (31) underwent definitive surgery either at our hospital or at tertiary referral centre where the FNA diagnoses was confirmed histologically. Thirty-two of the benign cases were operated and confirmed in the subsequent surgical biopsy. Thus, the sensitivity and specificity of FNA in detecting breast cancer in our series reached 100%. As a consequence to this success, the number of second operation (initial diagnostic biopsy followed by definitive surgery) on cancer bearing breast performed in this hospital was reduced by 73% in the first 4-years followed by 90.5% reduction in the next 4-years, after the introduction of FNA. In contrast to that, and over the same period of time, the benign to malignant ratio at open biopsy has increased from 5.5-17.6 and further to 30.5.

Our data demonstrated clearly the indisputable value of FNA in the diagnoses of breast lesions. The main purpose of FNA in the management of breast malignancy is to give a definitive pre-operative diagnosis that allows rapid referral or treatment, ideally in one operative session. This was achieved in all of our carcinoma cases. FNA is safe, rapid, repeatable and cost-effective. It leads to substantial savings in relation to the duration of hospital stay and operating room resources and time. It is an accepted fact that performance of FNA in the diagnoses of breast lesions improves with increased sensitivity and specificity over time.[1] Performed specifically by the pathologist, our inadequacy rate of 6.5% is among the lowest reported.[1] None of our cancer cases had inadequate FNA material. Inadequacy in our hospital was limited to benign cases only. Most of the inadequacy arose from patients with low clinical predictivity for malignancy who underwent FNA mainly for reassurance.

The excellence of our experience and its salutory effect on the management of most masses has been a source of great encouragement. We accordingly call for the