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Risk factors and co-morbidity of skin disorders among female schoolchildren in eastern Saudi Arabia.

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Abstract. The aim of this study was to determine the risk factors of skin disorders among female schoolchildren in primary and intermediate schools in Al-khobar city, Eastern Saudi Arabia. This is a cross-sectional study conducted in Al-Khobar city during the period of January to March 2003. It involved 2239 female schoolchildren randomly selected from 30 regular public and private primary and preparatory schools. A multi-stage stratified random sampling technique with proportional allocation was used. Data was collected using a pre-designed structured questionnaire and clinical examination. Dandruff was negatively associated with private schools and positively associated with age, body mass index and overcrowding. The association of atopic dermatitis with family history of atopy and bronchial asthma was documented in this study. Those who were at high risk of getting acne were schoolchildren who had more baths per week and lived in villas with a high number of rooms (in other words the high socioeconomic class). Pediculosis had a negative association with a high level of father education and high socioeconomic status and a positive association with living in a flat and the number of siblings. It was concluded that sex, socioeconomic status, family history, parents' education, home type, and overcrowding were found to be risk factors for some skin disorders. Accordingly, it is recommended that a preventive health education program for schoolchildren with different levels of skin diseases be started considering the predictive variables that increase the prevalence of these diseases.

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Factores de riesgo y co-morbilidad de enfermedades dermatológicas en niñas de edad escolar en Arabia Saudita oriental.

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Palabras clave: Prevalencia, enfermedades dermatológicas, Al-Khobar, Arabia Saudita.

Resumen. El propósito de este estudio fue determinar los factores de riesgo de las enfermedades dermatológicas en escolares femeninas de escuelas primarias e intermedias en la ciudad de Al-Khobar, Arabia Saudita Oriental. Se realizó un estudio transversal en la ciudad de Al-Khobar durante el período de enero a marzo de 2003. Se estudiaron 2239 niñas en edad escolar, seleccionadas al azar de 30 escuelas primarias y preparatorias regulares, públicas y privadas. Se utilizó una técnica de muestreo al azar, estratificada de múltiple fase, con distribución proporcional. La data se colectó mediante el uso de un cuestionario estructurado pre-diseñado y evaluación clínica. La caspa estuvo asociada negativamente con las escuelas privadas y positivamente con la edad, el índice de masa corporal y el hacinamiento. Este estudio documentó la asociación de dermatitis atópica con historia familiar de atopia y asma bronquial. Las escolares que tuvieron más alto riesgo de padecer acné son aquellas que tuvieron más baños por semana y que vivían en villas con un alto número de habitaciones (en otras palabras, de la clase socioeconómica alta). La pediculosis tuvo una asociación negativa con un alto nivel de educación y alto estrato socioeconómico del padre y una asociación positiva con el habitar en un apartamento y el número de hermanos. Se concluye que el género, el estrato socioeconómico, la historia familiar, la educación de los padres, el tipo de vivienda y el hacinamiento fueron factores de riesgo para algunos desórdenes dermatológicos. En consecuencia, se recomienda que se comience un programa de educación sanitaria preventivo para escolares con diferentes grados de enfermedades dermatológicas, considerando las variables predecibles que incrementan la prevalencia de estas enfermedades.

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INTRODUCCIÓN

The prevalence of skin diseases in any community is influenced by various risk factors. These include genetic, racial constitution, social and hygienic standards, customs and occupations. They also include the nutritional status, age structure of the community, climatic factors, state of industrialization and quality and quantity of medical care. Age is the most important factor that alters the prevalence and pattern of dermatologic disease (1).

Poor socioeconomic environments cause high morbidity rates, particularly for infectious diseases (2). Skin diseases, especially transmissible skin diseases, are observed frequently in people living in poor socioeconomic and unhygienic conditions (3).

Skin diseases represent one of the most frequent causes of morbidity in devel-

oping countries. The morbidity of dermatological diseases is most often presented as inability to work or as having an adverse effect on social function (1) A schoolchild can suffer from loss of concentration as a result of scratching, itching, pain, embarrassment, and loss of school days because of absence, resulting in the deterioration of school achievement. Moreover, the schoolteacher may feel uneasy by rashes or lesions on a child skin, particularly if there is a possibility of contagion (4).

Consequently, knowledge about the prevalence of different skin conditions and associated risk factors allows for appropriate planning and the provision of care for these problems.

To the best of the investigator's knowledge, no studies of that nature have been conducted in the Eastern province, Saudi Arabia. The objective of this study was to determine the risk factors of skin disorders among female schoolchildren in primary and intermediate schools in Al-khobar city.

MATERIAL AND METHODS

This is a cross-sectional study conducted in the Al-Khobar city in the period from January to March 2003. The target population was composed of all female schoolchildren in regular public and private primary and preparatory (total number of 28,766 students). The sample size was estimated based on the proportion of schoolchildren suffering from skin disorders computed from the pilot study. A total number of 2,239 schoolchildren were included. A multi-stage stratified random sampling technique with proportional allocation was used. Skin diseases were classified according to the modified 10^{th} revision of the international classification of disease (ICD-10) (5).

Self-administered designed structured questionnaires were distributed to all selected schoolchildren a few days before clinical examination, to be filled by their parents. The questionnaires were then collected on a daily basis. Informed consent for inclusion in the study was obtained from the parents by invitations accompanied by a letter explaining the purpose and details of the study. The questionnaires consisted of three parts: Schoolchildren Information, Parents Information and Family Information.

Atopic dermatitis was defined using the U.K. Working Party diagnostic criteria for atopic dermatitis (6). Each family was classified into upper, middle and lower socioeconomic class according to the composite of father education, father's occupation and family income (Saudi Reyal = 3.75$ (USA dollars) per month (ranking scores = 7, 3, 1 for each) (7) Level 1 (upper) = 21; level 2 (middle) = 9-20; level 3 (lower) = 3-8.

The anthropometric measurements included were: weight, height and BMI (weight (in kg)/height (in m^2). The BMI interpretation was based on the table of a standard definition for overweight and obesity in children (8) and growth chart of body mass index-for-age percentiles: girls, 2 to 20 years (CDC growth charts) (9).

All the selected schoolchildren were examined by the investigator in a private room in daylight in the same school. All the parts of the body were exposed except the thighs and perineum. The undiagnosed cases were examined in the same school by the female consultant dermatologist. Validity of diagnosis showed McNemar test = 2, $P > 0.1$ and sensitivity of 100% with a specificity of 94%. Reliability of the questionnaires was examined using Cronbach's statistic, and the alpha Coefficient was 0.8 which was considered highly reliable.

All variables were checked for accuracy and completeness and were coded. Data was then entered into a personal computer and the Statistical Products of Service Solutions (SPSS) version 10 was used for data entry and analysis. Appropriate statistical analytical techniques were performed (Chi-squared test, Student t-test and Mann-Whitney-Wilcoxon test). EPI Info program version 6 was used to determine the odds ratio and 95% confident intervals (C.I). Multiple logistic regression was used to assess the relation between the skin diseases and other variables. All the necessary approval required were obtained from the relevant authorities before the conduct of the study. Positive skin disease cases were treated and referred to a dermatology clinic for follow up and treatment.

RESULTS

The response rate was 100%. The students' ages ranged between 6 and 17 years with a mean of 10.49 ± 2.64 years. Saudis students constituted 82.4% of the study sample, while only 17.6% were non Saudi. 69.3% of students were from the primary educational level while 30.7% were from Preparatory.

The number of students' absent days from school ranged from 0-22 days with a mean of 3.24 ± 3.54 days. The frequency of students' change of underwear per week ranged from 1-32 times with a mean of 6.09 ± 2.58 times, while the frequency of bathing per week ranged from 1-21 times with a mean of 4.46 ± 2.11 times. Most of the schoolchildren were first (20%) or second (20%) in order among their siblings. Almost equal percentages of the sample lived either in villas or flats, with a mean number of 5.99 ± 2.79 rooms. The mean number of siblings was 5.23 ± 2.58. The history of skin allergy was positive in 57.3% of the sample. The second and the third common positive past histories of skin diseases were dandruff and acne. Only 134 (6%) of the schoolchildren had a positive history of chronic diseases, 76 (56.7%) of whom suffered from bronchial asthma. The mean height of the sample schoolchildren was 136.85 ± 15.12 cm, while the mean weight was 37.43 ± 16.06 Kg. The mean BMI of the sample schoolchildren was 19.21 ± 5.17. 306 (13.7%) of the sample schoolchildren had family history of skin diseases and two-third of these (70.3%) had a history of skin allergy.

Table I shows selected socio-demographic characteristics of the families of the study sample.

Risk factors associated with skin disorders

I. Dermatitis, Eczema and Related Conditions: Bivariate analysis showed that there were significant statistical associations between the diagnosis of dandruff and school type ($p < 0.01$), educational level ($p < 0.01$), mother's education ($p = 0.007$) and BMI ($p < 0.01$). It was statistically more significant among the 15-17 year-olds (0.01). Prevalence of dandruff was significantly associated with the overcrowding index of ≥ 3 ($p < 0.004$). Table II shows the multiple logistic regression model of diagnosis of dandruff after controlling for the level of education and mother's education. The prevalence of dandruff was negatively associated with type of school (private) and positively associated with the schoolchildren's ages, BMI, and crowding index.

The study showed significant statistical associations between the diagnosis of atopic dermatitis and the following variables: past history of skin allergy ($p < 0.001$), history of bronchial asthma ($p < 0.001$) and family history of skin allergy ($p < 0.001$). Keratosis pilaris was statistically more prevalent among the 15 ± 17 year-olds ($p < 0.001$), and in preparatory schools ($p < 0.001$). The prevalence of *K. pilaris* was significantly

TABLE I
SELECTED SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE STUDY SAMPLE FAMILIES, AL-KHOBAR AREA, 2003

Demographic feature	Father		Mother	
	Number	%	Number	%
Education level				
Illiterate	61	2.7	197	8.8
Read and write	82	3.7	149	6.7
Primary	199	8.9	304	13.6
Preparatory	370	16.5	379	16.9
Secondary	642	28.7	650	29
University	884	39.5	560	25
Total	2238	100	2239	100
Occupation*				
Governmental	1094	48.9	335	15
Private employee	816	36.4	65	2.9
Private work	188	8.4	7	0.3
Retired	121	5.4	19	0.8
Others	19	0.8	3	0.1
Housewife			1810	80.0
Total	2238	100	2236	100
Father income*				
< 2000	91	4.1		
2000 - < 5000	434	19.4		
5000 - < 7000	423	18.9		
7000 - < 10000	492	22		
≥ =10000	796	35.6		
Total	2236	100		
Socioeconomic status*				
Upper	544	24.3		
Middle	1342	59.9		
Lower	352	15.7		
Total	2238	100		
Type of home				
Villa	1134	50.6		
Flat	1105	49.4		
History of smoking in the family				
No	1567	70		
Yes	672	30		

lower in underweight schoolchildren compared to normal schoolchildren ($p < 0.001$). Regarding *Pityriasis alba* the only significant variable was the father's income. The highest percentage was found among students whose father's income was less than 2000 Saudi Riyals.

II. Disorders of skin appendages: Bivariate analysis showed some selected variables which were found to be statistically associated with the diagnosis of acne. The prevalence of acne was statistically higher among the 15 ± 17 year-olds ($p < 0.001$). Prevalence of acne was significantly associated with the overcrowding index of ≥ 3 ($p < 0.005$). Statistically better school achievement was found among schoolchildren who did not have the diseases ($p < 0.001$). Table III shows the multiple logistic regression model of the diagnosis of acne after controlling for the level of education, BMI, frequency of underwear change and family income. The prevalence of acne was negatively associated with the type of school (private school), the type of home (flat) and number of siblings, while positively associated with the schoolchildren's ages, number of rooms and frequency of bathing per week.

III. Transmissible Skin Diseases (infectious skin diseases): In this study sample, the most common type of transmitted skin disease was pediculosis. The distribution of cases was equal in all age groups with a mean age of 10.48 ± 2.76 years. Statistically a better school achievement was found among schoolchildren who did not have the diseases ($p < 0.001$). Bivariate analysis showed statistically significant association between diagnosis of pediculosis with

TABLE II
THE LOGISTIC REGRESSION MODEL OF DIAGNOSIS OF DANDRUFF AMONG SCHOOLCHILDREN, AL-KHOBAR AREA, 2003

Predictors	Regression Coefficient β	P-value	Odds Ratio	95% C.I. for Odds Ratio
Constant	–6.045			
School type	–0.604	0.007	0.547	0.354-0.845
Age	0.336	<0.001	1.4	1.327-1.477
Body mass index	0.028	0.014	1.029	1.006-1.052
Crowding index	0.330	0.021	1.390	1.051-1.838

TABLE III
THE LOGISTIC REGRESSION MODEL OF DIAGNOSIS OF ACNE AMONG SCHOOLCHILDREN, AL-KHOBAR AREA, 2003

Predictors	Regression Coefficient β	P-value	Odds Ratio	95% C.I. for Odds Ratio
Constant	–8.952			
School type	–0.457	0.031	0.633	0.418-0.958
Home type	–0.322	0.030	0.725	0.542-0.958
Age	0.653	<0.001	1.921	1.801-2.049
Number of rooms	0.042	0.075	1.043	0.996-1.093
Number of Baths	0.087	0.003	1.091	1.029-1.155
Number of siblings	–0.049	0.057	0.952	0.905-1.002

the: school type ($p < 0.001$), type of home ($p < 0.001$), father's education ($p < 0.001$), mother's education($P < 0.001$), mother's occupation ($p < 0.001$), father's income ($p < 0.001$), socioeconomic status ($p < 0.001$), number of rooms ($p < 0.001$), number of siblings ($p < 0.003$), family income ($p < 0.001$), and overcrowding index ($p < 0.001$).

Diagnosis of *Pediculosis capitis* among schoolchildren with dandruff (2%) was significantly lower (5.9%) than those without dandruff ($p < 0.001$). Table IV shows the multiple logistic regression model of diagnosis of pediculosis after controlling for the mother's education, mother's occupation, father's income and family income. The diagnosis of pediculosis was negatively associated with the type of school (private), father's education (high education) and socioeconomic status (high class), while it was positively associated with the type of home (flat) and number of siblings.

Obesity as a risk factor for skin diseases was found to be significantly associated with dandruff, acne, xerosis, acanthosis nigricans, folliculitis, alopecia, stria and callosity.

The skin diseases found to be statistically associated with underweight schoolchildren were: dandruff, acne, K. pilaris and insect bites, which were less prevalent among underweight schoolchildren; while herpes simplex, cheilitis, and cherry angioma were more prevalent.

DISCUSSION

To the best of the investigator's knowledge, this is the first comprehensive community-based study in the region measuring the risk factors of skin disorders in children.

The overall response rate in this study was 100%. This might be attributed to continuous follow-up, daily collection of the questionnaire and reminding the non responders by calling them at home daily.

In a previous study (10) the overall prevalence rate of skin disorders was high (98.6%). Since accessibility to male schools is proscribed by policies of the Ministry of Education in Saudi Arabia, this study focused only on girls. The distribution of these common skin disorders showed the predominance of most of these conditions in the preparatory schools as compared to the primary schools. This result reflects the effect of age in the prevalence of skin diseases. Similar results were reported in Hong Kong schoolchildren (11).

Dandruff in this study was more prevalent among 15-17 years old preparatory schoolchildren. Dandruff was more common among children who had low educated mothers; educated mothers tended to take

TABLE IV
THE LOGISTIC REGRESSION MODEL OF DIAGNOSIS OF PEDICULOSIS AMONG SCHOOLCHILDREN, AL-KHOBAR AREA, 2003

Predictors	Regression Coefficient β	P-value	Odds Ratio	95% C.I. for Odds Ratio
Constant	–2.891			
School type	–1.142	0.056	0.319	0.099-1.031
Home type	0.850	<0.001	2.340	1.518-3.606
Father education	–0.751	0.006	0.472	0.277-0.805
Socioeconomic status	–4.499	0.067	0.607	0.356-1.037
Number of sibling	0.086	0.016	1.090	1.016-1.16

care of their children's hair and had greater awareness of hygiene, and would seek medical advice on the prevention of dandruff.

In this study, an interesting finding was that overweight and obese schoolchildren were at a higher risk of getting dandruff than normal schoolchildren, a result that had not been reported in previous studies that considered skin disorders in obesity (12-16). No explanation has been found in the literature but it could be due to an increase risk of infection associated with obesity. Another risk factor found in this study is overcrowding, probably the result of sharing personal tools (e.g. hair comb) in big families. This supports results from Turkey (17) where dandruff was higher in schoolchildren with poor socioeconomic conditions involving high overcrowding index.

Climate could play a role as a risk factor for atopic dermatitis which may explain why the prevalence of atopic dermatitis in this study, where the weather is very humid, was much lower than that reported in the United Status (18) and other countries (19-23).In a Japanese study the lifetime prevalence of AD amongst children aged 3 months to 12 years was 3.1% in a subtropical region of the country, compared with 19.3% in a temperate zone (24). Humidity may therefore have a role in preventing the excessive dryness of the skin. The difference in climate also affects housing conditions, such as carpeting and central heating.

Another possible risk factor for AD is water hardness. A study conducted among primary and secondary schoolchildren in Nottinghamshire found that hard water at home seemed to increase the risk of developing AD (25). Also a study conducted in the United States showed that blacks and Asians were much more likely to visit physicians for AD than whites (26). In this study, AD was slightly higher among the primary than preparatory schoolchildren and the prevalence decreased with age from 2.7% in 6-8 years old to 2% in15-17 years old, but that result was not statistically significant. A similar finding (no differences in the prevalence of AD between the 6-7 year olds and the 12-15 years old) was reported in Singapore schoolchildren (19). This was in contrast to the expected findings of incidence decreasing with age as children went into preparatory school (20). In other words, atopic dermatitis tends to begin in childhood and clears spontaneously in adulthood (27).

It is well known that the most significant risk factor for AD is a parental history of AD. This association is well documented in cohort and many other studies focused on the familial association of atopy (28, 29). In this study, 32.1% of atopic patients had a family history of skin allergy compared to 70% in Singapore schoolchildren (19) and 59% in North Europe (30). There was a statistical association between the presence of bronchial asthma and AD. The proportion of AD patients with asthma (10.7%) in this study was comparable to (9.5%) that reported from Singapore (19), but much lower than (46%) the reported in Italian schoolchildren (31).

The more severe cases of atopic dermatitis can have other significant physical problems, such as growth failure (32). In this study, 13.2% of those who had AD were under weight (below 5th percentile). The highest proportion of cases (28.3%) lay in the 50th percentile although the result was not statistically significant.

The evidence for a direct relationship between passive smoking and allergic sensitization is contradictory (33). This relationship was demonstrated among schoolchildren in Ostersund in northern Sweden (34). In the current study, no statistical association was found between passive smoking and AD. A similar finding was reported in Italian schoolchildren (31).

The association between AD and environmental factors is consistent. There is a hypothesis that more crowded houses, increased family size and birth order, may possibly increase early exposure to infections. Hence, offers protection from subsequent development of eczema (35). In this study there was neither association between AD and such factors, nor between AD with the type of house and school location. A similar result was reported in Italian schoolchildren (31).

In Western countries, the association between atopy in children and the socioeconomic class of their parents has been reported (36). A similar finding was observed in this study where 86.6% of atopic patients belonged to high and middle socioeconomic classes, but the result was not statistically significant, similar to the finding reported in Japan (37).

Atopic dermatitis is a constitutional skin disorder which predisposes patients to interactions with other skin diseases (38). In this study, AD was found to increase the tendency to develop xerosis and *Pityriasis alba* and reduce the tendency for mole and acne. A similar finding was found in other studies (38, 39) on mole and acne.

The prevalence of *Keratosis pilaris* (KP) in this study was more common among the 15-17 year olds schoolchildren. This study was conducted in winter; in fact, one study showed a seasonal variation in the severity of KP in 80% of patients, where 49% of them improved in summer and 47% worsened in winter (40) *Keratosis pilaris* was shown to be associated with multiple factors, including: BMI, dryness in the skin of the leg and atopic conditions (41). In this study, there were no statistical associations between KP patients and these variables. This is consistent with reports with the same finding (19).

The prevalence of *Pityriasis alba* (PA) in this study was much lower than the reported among schoolboys in other regions in SA (42, 43). This variation in prevalence may be attributed to excessive dry skin due to over exposure to sunlight as males are more exposed to sunlight during outdoor play, or to the cold winter winds of the southern region. In this study the prevalence of PA was higher among the 6-8 years age group although the result was not statistically significant. A similar finding was reported in Romanian schoolchildren (44) where the result was statistically significant. Atopy is frequently described as a pathogenic factor in PA. In this study, 14.3% had both PA and atopic dermatitis ($p < 0.01$) in contrast to insignificant result in other studies (19, 38).

Some investigators have observed that acne exacerbates in winter and improves during the summer months (45), so its prevalence in the current study might have been affected by the conduct of the study in winter. The prevalence peaked in the 15-17 years age group (66.9%), with a mean age of 13 years. Most of the studies showed age-related variations in the prevalence of acne (2, 38, 45) most probably due to the hormonal changes of adolescence. The prevalence rate of acne in the 6-12 year-olds (11.5%) in this study was however higher than that reported among schoolboys in other parts of the Kingdom (2, 38) Similar findings were reported among Swedish (39) and Australian (46) school girls aged 12 years. This supports the fact that acne appears earlier in females than in males, possibly reflecting the earlier onset of puberty (47, 48). In the current study, those who did not have the diseases had better achievement at school. This may indicate that acne may have psychological impact on school work and females were more vulnerable than males to the negative psychological impact of acne (49). Patients with acne were found to have social, psychological and emotional problems that were

as marked as those reported by patients with chronic disabling asthma, epilepsy, diabetes, back pain or arthritis (50) Similar community studies in secondary school children reported a higher level of psychiatric problems (51, 52). Moreover, a study conducted in France observed that acne could affect the quality of life (53). Improvement in psychological problems and quality of life are known to be associated with an effective medical treatment for acne (54). Unfortunately, young people seem to be hesitant about seeking medical help, yet, they may consult friends and family, instead of seeking help from the appropriate source (55).

In the current study, schoolchildren in private schools who had higher number of baths per week and lived in villas with a larger number of rooms were at higher risk of having the disease. These findings may suggest that acne could be associated with high socioeconomic class. This is supported by the higher prevalence was found among schoolchildren with high family income. A similar finding was reported in other study (17).

Acne is a constitutional skin disorder that predisposes patients to interactions with other skin diseases (38, 39). In the present study, acne increased the tendency to develop dandruff, moles, and striae, while it reduced the tendency to develop atopic dermatitis.

Pediculosis is a public health issue in the Middle East (56-60). The prevalence rate of pediculosis in the present study was lower than rates recorded in some developed countries (61-65). The relatively low prevalence rate of pediculosis in the current study may be attributed to the effective screening program in schools and to the free medication offered to students and their families. Another reason could be due to the timing of the study which was conducted in winter. Pediculosis is more frequent in the warmer months when the higher temperatures assist in egg laying, hatching and the spread of the infection (66).

In the current study, the prevalence of pediculosis in schoolchildren with dandruff (2%) was lower than those without dandruff (5.9%). Therefore, the presence of dandruff appears to be protective against pediculosis. A similar finding was reported in other studies (42, 61, 67).

The distribution of the prevalence of pediculosis in the current study was equal in all age groups which contradicts other studies (57, 64, 67, 68). The rate of infestation usually declines among older girls due to a decrease in personal contact as they grow older.

Governmental schools had higher prevalence compared to private ones and the risk of pediculosis increased when the overcrowding index was more than 3. A similar finding was reported in other study (57). This could be explained by the fact that overcrowding in the public schools increases the chances of transmission of pediculosis. It could also due to the fact that private schools usually have medical doctors who routinely examine the students and give treatment. The current study also documents the effect of pediculosis in learning through school achievement, where those who had pediculosis statistically achieved less in school than those who did not.

The negative association between the prevalence of pediculosis and high level of the father's education and high socioeconomic status was expected. In a study conducted in Australia, the infestation probability in families with one child was lower than that in families with two (39.2%), three (37.3%), and four (50%) children (62). The positive association with living in a flat and families with more siblings can be explained by the overcrowding that lead ul-

timately to more personal contact and a greater risk of infection. There have been similar finding in other studies (56, 61).

In conclusion age, sex, socioeconomic status, family history, parents' education, home type, BMI and overcrowding were found to be risk factors for some skin disorders. With the presence of these risk factors the current situation in the schools need to be explored. Steps toward addressing this health problem have to be undertaken through the deep study of their causes and planning for effective prevention and better planning and provision of health services.

A preventive health education program for schoolchildren at different levels on skin diseases has started considering the predictive variables that increase the prevalence of these diseases. A recommendation was directed to the Ministries of Planning and Social Welfare to improve the education of parents through eradication of illiteracy and the inprovement of the economical status of the families.

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