

## **Prevailing Misconceptions of Vitiligo among Saudi School Children**

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### **Abstract:**

**Objectives:** To identify the prevailing myths and misconception about vitiligo among the school students in Qassim region of Saudi Arabia.

**Methods:** We conducted a cross sectional study in 18 schools of Qassim Regions in Saudi Arabia, Data was collected by 486 pre-tested, self-administered questionnaires. The questionnaires included a section on social-demographic information (age, sex, education of parents) besides prevailing myths on vitiligo. Data was analyzed by using SPSS (version 17 for Windows).

**Results:** The response rate: Males 46.3%, and females 53.3%. With vitiligo disease: 24.1% and non-diseased 75.9%, with positive family history: Males 9.3%, female 13.8%. Myths among students compared with gender: Vitiligo with; Fish/milk food (P= 0.374), calcium deficiency (P= 0.001), iron deficiency (P= <0.001), Vit C deficiency (P= 0.225), infectious (P= <0.001), Chicken pox like disease (P= <0.001), precancerous (P= 0.212) and not curable (P= <0.001). Myths among students compared with diseased/not diseased, namely that relation of vitiligo with: Fish/milk food (P= 0.006), calcium deficiency (P= <0.001), iron deficiency (P= 0.022), Vit C deficiency (P= <0.001), infectious (P= 0.228), Chicken pox like disease (P= <0.001), precancerous (P= 0.051) and not curable (P= 0.231).

**Conclusion:** The prevailing myths and conceptions delay seeking medical advice and should be addressed by focused health education programs through school health services.


**Key words:** Myths; Misconceptions Vitiligo; Qassim Regions

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## Introduction

Vitiligo is a common skin disease that results in loss of melanin pigment; the main causes of the disease are unknown. It is also known as "Leucoderma" the pathophysiology leading to the destruction of melanocytes in this disease have not yet been identified. <sup>(1)</sup> The incidence of vitiligo at King Khalid University Hospital (KKUH), Riyadh, Saudi Arabia was 2.5% for the period from 1985-1990, the majority (96.1%) were Saudis, <sup>(2)</sup> the disease has a worldwide prevalence ranging from 0.5% to 2%. <sup>(3)</sup> It can affect any age of both sex. <sup>(4, 5)</sup> Vitiligo is an ancient disease as mentioned in the Holy Quran when stating 'Eesa  that he cures the born blind and the patient with Baras (vitiligo). <sup>(6)</sup>

Female patients are more self-conscious and embarrassed of the disease than men, with more impairment of their social life, personal relationships, sexual activities and choice of clothing. In about 23 to 26% cases vitiligo affected are children under the age of twelve. <sup>(7)</sup> Over 30% of affected persons have reported vitiligo in a parents, sibling or children. The school - age children may also experience ridicule, embarrassment and social isolation, also extensive vitiligo of the exposed parts of the body can lead to sunburn. <sup>(8)</sup>

Vitiligo not only cosmetically disfigures the patient but there are many misconceptions related to it, which vary from one area of the world to another. The common misconceptions are that the disease is contagious, non-treatable, related to a specific kind of food/drinks, disease is a form of leprosy; disease is always heredity and may lead to skin cancers. <sup>(9)</sup>

Researches pointed that a considerable number of vitiligo patients have not been adequately informed about several aspects of the disease, including causes, heredity, background and treatment; it means few people have the correct information about the disease. <sup>(10, 11)</sup>

Myths are popular beliefs or stories that have become associated with a person, community, or occurrence, especially when considered to illustrate a cultural ideal. <sup>(12)</sup> These false collective beliefs become part of cultural identity, and used to justify a social behavior. They have a strong influence on the life of individuals and their way of living

including seeking treatment during illness. Therefore, understanding the myths and misconceptions about vitiligo is important in providing better care and health education to both patients and healthy individuals. The population of the Qassim Region consists of people nearly of the same cultural identity as other parts of Saudi Arabia. Particularly, dietary habits, strong conviction of the various myths concerning diets, herbal treatment and sequelae of the disease. <sup>(13)</sup> There is a variation of misconceptions in Saudi Arabian population regarding vitiligo, no study has been conducted in recent years in Saudi Arabia to assess the prevailing myths about vitiligo and its impact on the health seeking behavior.

The primary objective of this study is to identify the prevailing myths and misconception of vitiligo among the school students in the Qassim Region of Saudi Arabia

## Methodology

We carried out a cross sectional study from January to May 2012 to identify the prevailing myths and misconceptions about vitiligo among diseased and non-diseased students of both sexes in the intermediate and secondary schools in the three main cities of Qassim Region in Saudi Arabia. The approval of this study was obtained from the Qassim College of Medicine and General Directorates of Education in the Region. The latter also helped with random selection of the schools and classes (eight schools in Buridah, six in Unizah and four in Al Rass). The number of schools was chosen to be equal between sexes. All intermediate and secondary schools of Qassim Region were eligible to participate. One class was chosen from each selected school. All students in the selected class received the questionnaire; the questionnaire was developed based on international standards concerning the prevailing myths and misconceptions about vitiligo. <sup>(4, 5)</sup> The opinion of school health doctors was also taken in consideration through piloting 30 questionnaires to assess the administrative and procedural logistics; the questionnaire was self-administered and translated into Arabic. The questionnaires included a section on social-demographic information (age, sex, education of parents).

Calculation of the sample size was based upon the assumption that respondents who are convinced about the prevailing myths will constitute 50% ± 5% of the target population. Assuming 95% confidence interval (= 0.05). We calculated sample size 384, which was increased to 486 to account for the design effect. Data entry and analysis was carried out using SPSS (version 17 for Windows), we used cross-tabulation with Chi-squared test to detect statistically significant differences.

**Inclusion criteria:** Saudi students (intermediate and secondary schools of both sexes) in Qassim Region and who agreed verbally to participate in the study.

**Exclusion criteria:** there were no specific exclusion criteria.

Ethical approval was obtained from ethical review committee, Qassim University - College of Medicine.

**Results:**

The actual number of completed interviews in the surveys is 486, with respondent rate: Male 46.3%, and female; 53.3%. Those with vitiligo disease: 24.1%, non-diseased 75.9%, with positive family history: male 11.7 % and female 13.8%. (Table 1)

When compared by gender, the most common vitiligo myth among the students was that the relation of vitiligo is with: Fish/milk food (P=0.374), calcium deficiency (P= <0.001), iron deficiency (P= <0.001), Vit C deficiency (P= 0.225), infectious (P=<0.001), Chicken pox like disease (P= <0.001), precancerous (P= 0.212) and not curable (P=<0.001). (Table 2)

When compared with disease status (vitiligo/no vitiligo) the most common myth among the students compared with diseased/not diseased; namely that relation of vitiligo with: Fish/milk food (P= 0.006), calcium deficiency (p=<0.001), iron deficiency (P= 0.022), Vit C deficiency (P=<0.001), infectious (P= 0.228), Chicken pox like disease (P=<0.001), precancerous (P= 0.051) and not curable (P= 0.231). (Table 3)

**Table 1: Demographic characteristics of respondents.**

No	Characteristic	Male % (n)	Female % (n)
	Number of respondents= 486 students	46.3 (225)	53.7 (261)
	Father income of all respondents:		
	• <5000	3.1(7) 16 (36)	15.7 (41) 21.5 (56)
	• 5000-7000	80.9 (182)	62.8(164)
	• >7000		
	With vitiligo disease	24.1 (41)	75.9 (129)
	Duration of vitiligo disease		
	• No disease	82.7 (186)	49(128)
	• < 6 months	4.4(10)	5.4(14)
	• 6-12 months	9(2)	1.1(3)
	• 1-5 years	7.6(17)	14.2(37)
	• >5 years	4.4(10)	30.3 (79)
	Extent of vitiligo:		
	• Limited	10.7 (24)	37.2 (97)
	• Wide	7.1(16)	11.5(30)
	Family history of vitiligo		
	• Yes	9.3(21)	13.8(36)
	• No	90.7(204)	86.2(225)

**Table 2:** Common Vitiligo Myths among Students Compared With Gender

Myths	Sex	Yes % (n)	No % (n)	DN % (n)	Total	P VALUE			
Fish/milk food	• Male	45.8 (82)	42.4 (61)	50.3 (82)	46.3 (225) 53.7 (261)	0.374			
	• Female	54.2 (97)	57.6 (83)	49.7 (81)					
Calcium deficiency	• Male	39.6 (44)	30.6 (44)	59.6 (136)		46.3 (225) 53.7 (261)	<0.001		
	• Female	60.4 (97)	69.4 (83)	40.4 (92)					
Iron deficiency	• Male	45.8 (38)	30.3 (44)	55.4 (143)			46.3 (225) 53.7 (261)	<0.001	
	• Female	54.2 (45)	69.7 (101)	44.6 (115)					
Vit C deficiency	• Male	52.2 (36)	31.9 (51)	55.4 (138)				46.3 (225) 53.7 (261)	0.225
	• Female	47.8 (33)	68.1 (109)	46.3 (119)					
Infectious myth	• Male	47.6 (20)	40.2 (127)	78 (78)	46.3 (225) 53.7 (261)				<0.001
	• Female	52.4 (22)	59.8 (189)	39.1 (50)					
Chicken pox like myth	• Male	53.5 (46)	37.4 (92)	56.5 (87)		46.3 (225) 53.7 (261)			<0.001
	• Female	46.5 (40)	62.6 (154)	43.5 (67)					
Precancerous	• Male	51.4 (24)	42.9 (121)	51 (80)			46.3 (225) 53.7 (261)		0.212
	• Female	48.9 (23)	57.1 (161)	49 (77)					
Not curable	• Male	50 (48)	39.4 (106)	58.7 (71)				46.3 (225) 53.7 (261)	<0.001
	• Female	50 (48)	60.6 (163)	41.3 (50)					

**Table 3:** Common Myths among Students Compared with Disease

Myths	Vitiligo	Yes % (n)	No % (n)	DN % (n)	Total % (n)	P VALUE			
Fish/milk food	Disease	53.1(95)	70.1(101)	71.2 (116)	64.2 (312) 35.8	<0.001			
	No disease	46.9 (84)	29.9(43)	28.8 (47)					
Calcium deficiency	Disease	55.9 (62)	57.8 (85)	72.4 (165)		64.2 (312) 35.8	0.002		
	No disease	44.1 (49)	42.2 (62)	27.6 (63)					
Iron deficiency	Disease	71.1 (59)	53.1 (77)	68.2 (176)			64.2 (312) 35.8	0.004	
	No disease	28.9 (24)	46.9 (68)	31.8 (82)					
Vit C deficiency	Disease	58 (40)	52.5 (84)	73.2 (188)				64.2 (312) 35.8	<0.001
	No disease	42 (29)	47.5 (76)	26.8 (69)					

<b>Infectious</b>	Disease	64.3 (27)	61.7 (195)	70.3 (90)	(174)	0.231
	No disease	35.7 (15)	38.3 (121)	29.7 (38)		
<b>Chiken pox like</b>	Disease	64 (55)	61.4 (151)	68.8 (106)		0.318
	No diseas	36 (31)	38.6 (95)	31.2 (48)		
<b>Precancerous</b>	Disease	59.6 (28)	61.7 (174)	70.1 (110)	0.169	
	No disease	40.4 (19)	38.3 (108)	29.9 (47)		
<b>Not curable</b>	Disease	65.6 (63)	61 (164)	70.2 (85)		0.198
	No disease	34.4 (33)	39 (105)	29.8 (36)		

### Discussion

The reason for prevailing myths and misconception about vitiligo are multi-factorial. These include lack of knowledge about the disease, poor education, cultural beliefs and social misconception. Doctor patient relationship is the key in the management of vitiligo especially when it is supportive and helping the patient in understanding the facts about his disease.<sup>(13)</sup> Identifying the prevailing myths in our community will enable us to launch proper health education programs for this health problem.

In our survey, a positive family history of vitiligo is present in 23.1 % among both sexes of students, which to some extent is different from a study in which it was 31.2%.<sup>(15)</sup> There is also a significant differences in the number of male and female affected with vitiligo (male 24.1% vs females 75.9%), these results are nearly around the results obtained in a different study which showed; as male patients were less affected by vitiligo than female patients (33 % vs 67 %).<sup>(15)</sup>

In this study, there is a significant difference in the understanding concerning vitiligo myths between both sex in regard to Ca deficiency ( $p < 0.001$ ), iron deficiency ( $P < 0.001$ ), it's infectious origin ( $P < 0.001$ ), it is chicken pox like disease ( $p < 0.001$ ) and not curable ( $P < 0.001$ ), but there was no significant difference in the understanding among both sex concerning fish/milk ( $P = 0.374$ ), Vit C ( $p = 0.225$ ) and precancerous ( $P = 0.212$ ). The explanation for our results in our study that the awareness and understanding toward vitiligo myths is more among girls, this may be explained by the fact that girls are more concerned about their health problems, and the disease has more psychological impact among girls than males. In another study in India it was found that men, women and children with vitiligo are concerned with understanding their disease,

they also suffer from severe psychological and social problems, but it is more acute in the case of young women and children.<sup>(16)</sup>

In this study, there is a significant difference in the understanding concerning myths in relation to those diseased with vitiligo in regard to Ca deficiency ( $P < 0.001$ ), Vit C deficiency ( $p = 0.022$ ), it's chicken pox like disease ( $P < 0.001$ ) and it is a precancerous disease ( $P = 0.051$ ), relation to fish/milk ( $p = 0.006$ ), but there was no significant difference in the understanding of it's infectious ( $P = 0.228$ ) and not curable ( $P = 0.231$ ). This is explained by the understanding of the patients for their disease with time. Similar results were obtained from a study revealed that patient over time develop several strategies in understanding their health problem.<sup>(17)</sup>

In general these prevailing myths among Qassim students in Saudi Arabia are nearly similar to the myths related to vitiligo in other studies.<sup>(18, 19)</sup>

### Conclusion

There are many prevailing myths and misconceptions surrounding vitiligo, which delay seeking medical advice and should be addressed by focused health education programs through school health.

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