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EVALUATION OF LEVEL OF AWARENESS TOWARD SICKLE CELL DISEASES AMONG GENERAL POPULATION IN SAUDI ARABIA

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Abstract:

Background: Sickle-cell disease (SCD) is genetic disorder characterized by defect in the shape of red blood cells (RBCs), which result in fast destroyed then leading to fatal anemia. Recently, Saudi Arabia has been reported to have an increased prevalence of SCD.

Objective: To assess the level of awareness towards SCD among the general population in Saudi Arabia.Methods: A cross- sectional study based on questionnaire that distributed on 300 participants randomly and it was self-administered questionnaires during the period from December 2018 to January 2019. Results: 300 Saudi participants have filled the questionnaires. All of the study participants (100%) had heard about SCD, The vast majority of participants (90.7%) knew that SCD is a blood disease, and most of them know that SCD is hereditary (79.3%). Regarding the participating factors that trigger the crisis, about quarter of participants believe that high altitude cause the crisis. In addition, most of the study population (91.3%) identified that SCD causes severe pain that requires hospitalization.Conclusion: In this study, a good level of knowledge and awareness regarding SCD was found. But regarding te complications of SCD, high percentage of participants are not aware about the complications. Therefore, community health education meetings and/or media programs to increase the public awareness are recommended.

Keywords: *sickle-cell disease, awareness, population, Saudi Arabia.*

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INTRODUCTION:

Sickle-cell disease (SCD) is genetic disorders characterized by defect in the shape of red blood cells (RBCs) which leading to fatal anemia [1]. The pathological factor of this diseases is presence of hemoglobin S [2]. Also, there are many severe complications of SCD such as blood vessels obstruction and infarction of different body organs and end up with shock.

Nowadays, improvement in quality of life among SCD patients have been reported, which is mainly attributed to prophylactic [3].

However, proper public health awareness about SCD and its complications remains an important role in the management of SCD. Study conducted on African Americans demonstrated that there is limited awareness of SCD in these communities [4]. In addition, study showed moderate level of awareness regarding SCD in Nigeria [5].

In the Middle East, studies reported a good level of awareness toward SCD among the general public in Bahrain, and there are acceptance and appreciation of the SCD prevention campaigns in Bahrain [6].

In addition, Saudi Arabia has been reported to have an increased prevalence of SCD [7]. Therefore, it is important to evaluate the level of awareness of the general public in Saudi Arabia towards SCD to fill the gap.

METHODS:

Study design

A cross-sectional study was carried out among 300 participants in the Kingdom of Saudi Arabia. The study was conducted during the period from December 2018 to January 2019 that aimed to evaluate the level of awareness regarding SCD among Saudi population.

Data collection

Self-administrated questionnaire that was distributed randomly. The questionnaire consisted of two parts: (1) Socio- demographic information and (2) Knowledge about SCD and its complications.

Statistical analysis:

The data were entered and analyzed by using statistical package for social sciences (SPSS).

RESULTS:

The study was carried out on 300 Saudi adults who completed the self- administered questionnaires during the study period. There were 180 (60%) females and 120 (40%) males. Their ages ranged from 20 to 50 years old and the half of the participants were aged 31-40 years old. Most of them (28%) were in various professionals, housewife (21.6%), business (20.3%), students (19.3%) and retired (11.7%) as shown in **table 1**.

Table 1:Socio-demographic characteristics of the studied participants.

		N	%
Sex	Female	180	60%
	Male	120	40%
Occupation	Business	61	20.3%
	Housewife	65	21.7%
	professional	84	28%
	Retired	35	11.7%
	Student	58	19.3%
Age (years)	20-30	80	26.7
	31-40	152	50.7
	41-50	68	22.7

Table 2 shows participant's knowledge about SCD, all of the study participants (100%) had heard about SCD, mainly from their relatives and the internet (45.3% and 28% respectively). The vast majority of participants (90.7%) knew that SCD is a blood disease, and most of them know that SCD is hereditary (79.3%). Almost all of the participants knew that marriage of two persons having the disease or disease with trait of sickle cell hemoglobin will lead to baby with SCD (90%).

Table 3 shows the participants' knowledge towards SCD, Regarding the participating factors that trigger the crisis, about quarter of participants believe that high altitude cause the crisis while (21%) chose fever. Once we come to food that trigger crisis (81%) believe that there are specific foods should be avoided for whom has the disease.

Table 2: Perceptions about sickle cell disease.

questions		NO= 300	
		N	%
Have you ever heard of SCD?	Yes	300	**100.0%**
	No	0	**0.0%**
Sources of information about SCD?	Relatives	136	**45.3%**
	Primary health care	29	**9.7%**
	Magazines	2	**0.7%**
	Internet	84	**28%**
	Hospital	49	**16.3%**
Which of the following are true of SCD?	SCD is a blood disease.	272	**90.7%**
	SCD can be identified by a blood test.	4	**1.3%**
	Blood transfusions are an important way of treating SCD	24	**8%**
How do you get SCD?	You are born with it (It's hereditary)	238	**79.3%**
	Don't know/refused	62	**20.7%**
A baby will be born with SCD when	healthy person is married to someone with the diseases	30	**10%**
	Person with disease married to someone with the trait or with disease	**270**	**90%**

Table 3:Information of the studied subjects about heredity and precipitating factors of sickle cell disease.

Questions		N	%
Precipitating factors of sickle cell crisis include	Traveling at high altitudes	72	24%
	Infection	45	15%
	Fever	64	21.3%
	All are correct	119	39.7%
Is there food should be avoided for whom has the diseases SCD?	yes	245	81.7%
	No	55	18.3%

Knowledge of the study participants about complications of SCD was demonstrated in **table 4**, most of the study population (91.3%) identified that SCD causes severe pain that requires hospitalization and (81.3%) believe it effects on school performance negatively. But, great percentages (79.3%, 89%, and 65.3%) did not know accurately that SCD could lead to stroke, renal failure or life threatening infections. Moreover, most of them (73.3%) said that there is no currently a cure for SCD.

Table 4: Knowledge of the study participants about complications of sickle cell disease.

Questions		N=300	
		N	%
Does pain in SCD require hospitalization?	Yes	274	91.3%
	Maybe	26	8.7%
Does SCD leads to Poor school performance?	Yes	244	81.3%
	Maybe	56	18.7%
Does SCD lead to Stroke?	Yes	72	24%
	Maybe	238	79.3%
Does SCD lead to Kidney failure?	Yes	33	11%
	Maybe	267	89%
Does SCD lead to Life threatening infections?	Yes	43	14.3%
	No	61	20.3%
	Maybe	196	65.3%
Is there currently a cure for SCD?	Yes	80	26.7%
	No	220	73.3%

DISCUSSION:

This study demonstrated that high percentage of participants have moderate to good knowledge about general knowledge of sickle cell disease. One study done in Bahrain [6], showed good level of knowledge about SCD among the public. In addition, one study reported that 68% of their study population responded correctly to knowledge questions about SCD [9]. In contrast, lower level of knowledge was reported among SCD patients in Eastern Province, Saudi Arabia and secondary school students in Nigeria [8,10].

Parents. Based on these findings, educational campaigns targeting males in different occupations are required [11].

The source of information of the study population was mainly their relatives (45.3%) and internet (28%) however, those who has SCD child gained their knowledge mainly from the hospital (16.3%). This should be considered throughout preparation of intense programs to increase the public awareness about SCD.

CONCLUSION:

This study found that there is good level of awareness regarding SCD in Saudi Arabia. Campaigns programs should target the general community to fill the gap regarding the disease and its complications.

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