

Assessment of Visual Problems on Patients with Thalassemia (Major) and its impact on their Quality of Life: Case control study

تقييم مشكلات البصر لمرضى فقر دم البحر الأبيض المتوسط (الشديدة) وتأثيرها على نوعية حياته:
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الخلاصة

الخلفية: فقر دم البحر الأبيض المتوسط (الشديدة) هو من أمراض الدم الوراثية والتي تسبب فقر الدم الحاد وترسب الحديد الزائد بسبب تكرار نقل الدم مما يؤدي إلى أضراراً في أعضاء الجسم كالقلب والكبد والغدد الصماء والهيكل العظمي وعلاج الديسفرال يستخدم لغرض التخلص من نسبة ترسب الحديد في الجسم وللدسفرال آثاره الجانبية غير القليلة ومنها مضاعفات البصر.

الهدف: 1- تقييم مشكلات البصر عند المرضى المصابين بفقر دم البحر الأبيض المتوسط (الشديدة) 2- إيجاد تأثير مشكلات البصر على نوعية حياة المريض

3- المقارنة بين نوعية حياة مرضى فقر دم البحر الأبيض المتوسط (الشديدة) للمجموعة الضابطة ومجموعة الدراسة
منهجية البحث: دراسة وصفية أجريت في مستشفى ابن البلدي و مستشفى الكرامة، للمدة من الأول من تشرين الثاني 2013 ولغاية الأول من 30 حزيران 2014.

لعينة غير الاحتمالية (هادفة) شملت 70 من المرضى المصابين بفقر دم البحر الأبيض المتوسط (الشديدة) والذين يعانون مضاعفات بصرية (مجموعة الحالة) كانوا يحضرون إلى المستشفى في 70 من مرضى فقر دم البحر الأبيض المتوسط (الشديدة) غير المصابين بمشكلات البصر وهي (العينة الضابطة) وتألفت أداة الدراسة من ثلاثة أجزاء مع صفحة الترحيب والموافقة من قبل المريض لإجراء الدراسة، حيث تضمن الجزء الأول المعلومات الاجتماعية والديموغرافية والمتضمنة (الفئة العمرية والجنس والحالة الاجتماعية، ومستوى التعليم، الحالة الاقتصادية)، وتكون الجزء الثاني من (15) فقرة تتعلق بالمعلومات الطبية للمرضى (حيث شملت التاريخ السابق والحالي) وتم استخدام المقياس الهندي المتكون من 33 فقرة والمتعلق بنوعية حياة المرضى المصابين بمشكلات البصر وكان الجزء الثالث من الأداة وتم إدخال البيانات باستعمال النظام الإحصائي في إدخال البيانات الإصدار 19 واستخدم الباحثان الإحصاء الوصفي والإحصاء الاستدلالي لتحليل البيانات.

النتائج: أشارت نتائج الدراسة بأن 47.1% يعانون من مشكلات البصر منذ 20-5 سنة وأن نسبة 45.9% من مشكلات البصر هي الماء الأزرق في العين وتبين بأن نوعية حياة المرضى للمجموعة الضابطة أفضل من نوعية حياة مجموعة الحالة.

الاستنتاجات: استنتجت الدراسة بأن نسبة من عينة الدراسة لديهم مضاعفات بصرية من 5-20 سنة و معظمهم يعانون من الماء الأزرق في العين، ومعظم عينة الدراسة لديهم خلل في كلتا وأظهرت الدراسة بوجود علاقة ذات دلالة إحصائية بين مشكلات البصر وارتداء النظارات، وتم إيجاد علاقة بين المرضى الذين يشعرون بتحسن بعد العملية ومشاكلهم في كلتا العينين بمستوى معنوية ≤ 0.05 .

التوصيات: يوصي الباحثان بالعمل على إجراء الفحوصات الدورية لمشكلات البصر لجميع مرضى فقر دم البحر الأبيض المتوسط للحد من هذه المضاعفات سواء كانت هذه المضاعفات تعزى إلى فقر الدم، أو الحديد الزائد، أو الآثار الجانبية للعلاج، وتأهيل المرضى الذين يعانون من مشاكل بصرية للتعامل مع الوضع الصحي المتعلق بالبصر من خلال تدريب المرضى على كيفية أداء أنشطة الحياة اليومية.

Abstract:

Background: Major thalassemia is the most inherited hemoglobinopathy that caused severe and progressive anemia. Iron overload due to repeated blood transfusion cause organ damage such as heart, liver, endocrine gland and skeletal system. Desferal, as an iron chelator is used to eliminate iron from the blood that despite its side effects is few, visual problems due to it is exactly known.

Objectives: 1-Assessment of visual problems among thalassemia major patients 2- To findout the impact of the visual problems on patients quality of life 3- To compare between thalassemic major patients quality of life for case and control study.

Methodology: A descriptive design study was carried out in Ibn-Al-baldi hospital and AL – Karama hospital, starting from 1th November 2013 to the 1st Jun 2014. A non- probability (purposive) sample of 70 adults thalassemia major patients who have visual complication (Case) were attending to the hospitals, and 70 thalassemia major patients not have visual complication as a control study sample. The study instrument was composed of three parts and page of patents agreement to participate in the present study, which as socio-demographic information was included; age group, gender, marital status, level of education, occupational, economic, part two consist of medical information was comprised of (15) items, which deals (The past and present medical history), and the Indian Vision Function questionnaire. (IND -VFQ) which consist of (33-

items) to measure the quality of life. The researchers used the appropriate statistical methods for data analysis which include the descriptive data analysis, and inferential data analysis, by using the SPSS version 19

Results: the results of present study revealed that 47.1% of the study sample have visual problems since 5-20 years, 45.9%, 23% of these problems was cataract and myopia respectively, and the quality of life for control group better than quality of life for case groups

Conclusion: High percent of the study sample have visual complication for 5-20 years ago, most of them have cataract, most of the study sample have defect in both eyes, and there were significant relationship was appear between eye problems and patients wear class, and there were highly significant between patients feel better after operation and their problems in both eyes at $p \geq 0.05$ value.

Recommendation: the researchers recommends to all thalassemic patients should be screened for such complications. However, the results were not conclusive on whether these complications are attributable to the anemia, the iron overload, or a side effect of the iron chelating agents, and works to rehabilitation of patients with visual problems to cope with the situation by training patients to daily life activities.

Keywords: thalassemia major, vision problem, quality of life, Desferrioxamine

INTRODUCTION

Thalassemia is the most common hemoglobin disorder in the world and thalassemia major and intermedia stand among the most severe forms(1), β -thalassemia is one of the most common heterogeneous inherited single gene disorders. The disease results from one or more of 380 different mutations in the β -globin gene (2), thalassemia major is the most severe form of beta-thalassemia leading to severe anemia and patients are in need of blood transfusion since the young age; this type may end in heart failure, due to iron overload, or early death in childhood in case of no transfusion. (1), Iron is essential for all living organisms. Under normal conditions there is no regulatory and rapid iron excretion in humans and body iron levels are mainly regulated from the absorption of iron from the gut. Regular blood transfusions in thalassaemia can result in excessive iron deposition in tissues and organs. This excess iron is toxic, resulting in tissue and organ damage and unless it is removed it can be fatal to those chronically transfused(3), Desferrioxamine is used for the treatment of chronic iron overload, acute iron poisoning, and certain anemia's. Ocular toxicity secondary to prolonged treatment with desferrioxamine may result in night blindness, visual field constriction, cataract, pigmentary retinopathy and optic neuropathy (4). several complications with DFO have been reported, which were due to pharmacological activity and high dose toxicity with regard to both acoustic and visual effects, (2), like other chronic diseases thalassemia and their associated complications is affects different aspects and quality of patient life. So the quality of life should now be considered an important index of effective health care. The prolonged survival of patients with thalassemia major as a result of the novel therapeutic strategies introduced in the last decade makes patient quality of life an important issue (5)

Based on the World Health Organization's definition of health, quality of life is an integral part of health and well-being and the WHO recently recommended that vision related quality of life form part of assessments and evaluations of interventions in eye health, the relationship between impaired vision and thalassemia was developed as a results of chelation therapy in thalassemic patients.(6) Reduced visual acuity significantly reduces participation in social or religious activities, mobility, activities of daily living, and visually intensive tasks(7), and vision loss is impact on one's functional ability and quality of life . Assessing the impact of visual impairment on QOL can provide a comprehensive picture of the burden of visual impairment beyond clinical evaluation. (8) Our study investigated the changes occurring in overall quality of life in patients with thalassemia major as a results of visual defects association chelation therapy.

Objectives of the study: The study aims to

- 1- Assessment of visual problems of Patients with thalassemia major.
- 2- To find out the impact of the visual problems on patients quality of life
- 3- To compare between quality of life for case and control study.

METHODOLOGY:

Design of the study: A descriptive design study was carried out in Ibn-Al-baldi hospital and AL – Karama hospital, starting from 1th November 2013 to the 1st Jun 2014. The administrative agreement was obtained from the hospitals and the patients who participated in the study.

The study Sample: A non- probability (purposive) sample of 70 adults thalassemia major patients who have visual complication (Case) were attending to the hospitals, and 70 thalassemia major patients not have visual complication as a control study sample, the patients was diagnosed with visual problems

The study Instrument: The study instrument was composed of three parts which socio-demographic information was included; age group, gender, marital status, level of education, occupational, economic, part two consist of medical information was comprised of (15) items, which deals (The past and present medical history), and the Indian Vision Function questionnaire. (IND -VFQ) which consist of (33-items) to measures the quality of life.

Validity and Reliability: The content validity of the instrument was established through a panel of (18) experts, the reliability of the items was based on the internal consistency of the questionnaire was assessed by calculating Cronbach s' Coefficient alpha which as= 0.73

Data collection: The data collected by revision the patients chart to obtain information concerning a definitive diagnosis with thalassemia major and complain from visual problems for case study, and self report and structured interview technique used for clients who cannot read and write.

Statistical Analysis: The researchers used the appropriate statistical methods for data analysis which include the descriptive data analysis, and inferential data analysis, by using SPSS version 19

RESULTS:

Table 1: Distribution of Thalassemia Major Patients by Socio- Demographic Characteristics for Case and Control Study (NO=70)

No.	Variable	F.	%	NO.	%
1	Gender	Case		Control	
1.1	Male	38	51.4	34	45.9
1.2	Female	32	43.2	36	48.6
2	Age (year)				
2.1	18- 22	22	14.7	19	25.7
2.2	23- 27	40	26.7	23	31.1
2.3	28- 32	38	25.2	17	23.0
2.4	33-37	34	22.7	11	14.9
	Mean of Age $\pm$ 28.5				
3	Marital status				
3.1	Single	35	47.3	33	44.6
3.2	Continuous Married	29	39.2	34	45.9
3.3	Widowed	3	4.1	1	1.4
3.4	Divorced	1	1.4	1	1.4
3.5	Separated	2	2.7	1	1.4
4.	Level of education				
4.1	Unable to read & write	16	21.6	14	18.9
4.2	Read & Write	11	14.9	14	18.9
4.3	Primary	10	13.5	14	18.9
4.4	Intermediate	9	12.2	12	16.2
4.5	Secondary	3	4.1	10	13.5
4.6	Higher education	21	28.4	6	8.1
5	Employments				
5.1	Student	16	21.6	11	14.9
5.2	Employer	11	14.9	4	5.4
5.3	Free job	19	25.7	27	36.5
5.5	Retired	3	4.1	1	1.4
5.6	Unemployed	21	28.4	26	35.1
6	Income				
6.1	Low income	14	18.9	11	14.9
6.2	Moderate income	24	32.4	23	31.1
6.3	High income	32	43.2	36	48.6

Table 1 shows the 70 thalassemia major patients (case) indicated that the **51.4%** was males, the mean of score for age was **± 28.5** , 47.3% of them were single, 28.4% of them at higher education graduated, 28.4% was unemployed, 43.2% of the study with high income, and the characteristics of 70 thalassemia major (control) was **48.6%** females, **at ± 28.5** mean of age, 45.9% were continuous married, 18.9% of them was primary education graduated, **35.1%** were unemployed, and 48.6% were high income.

Table 2: Distribution of the Study Sample (Case and Control) Regarding Past and Present Medical History (NO=70)

No.	Variable	Case		Control	
1	Number of family cases	NO.	%	NO.	%
1.1	Father	7	10.0	3	4.3
1.2	Mother	28	40.0	39	55.7
1.3	Cousins	28	40.0	6	8.5
1.5	Brothers and sisters	7	10.0	22	31.4
4.	Desferral				
4.1	Regular	48	68.6	45	64.3
4.2	Irregular	22	31.4	25	34.7
5.	Treatment				
5.1	Blood transfusion	11	15.7	12	17.1
5.2	Desferral	13	18.6	13	18.6
5.3	Both	46	65.7	45	64.3
6.	Medical Problems				
6.1	Splenomegaly	29	41.4	25	35.7
6.2	Hepatomegaly	15	21.4	15	21.4
6.3	Urinary Tract Infection	13	18.6	11	15.7
6.4	Cardiac hypertrophy	7	10.0	8	11.4
6.5	Viral Hepatitis	6	8.6	11	15.17

Table 2 revealed that the 40% of the case family was a mother and cousins is a carrier disease, 55.7% of the control study was a mother is a carrier disease in their family, 68.6% and 64.3% of the case and control groups respectively have regular desferral, 65.7%, 64.3% have both blood transfusion and desferral as a treatment respectively, and 41.4% of the case group have splenomegaly and 35.7% of control group have splenomegaly as a complication of disease.

Table 3: Distribution of the Study Sample (case) Regarding Visual Complication

Variables	Classifications	NO.	%
Duration of Vision problem	5 - 20 years	33	47.1
	21 – 29 years	32	45.7
	30 - 37 years	5	7.1
Type o vision problem	cataracts	34	45.9
	Myopia	17	23.0
	Hypermetropia	2	2.7
	retinopathy	9	12.2
	optic neuritis	5	6.8
	blurred vision	3	4.1
Vision eyes	Both eyes	47	67.1
	One eye	23	32.9

Surgery of eyes	Laser surgery	33	47.1
	Crystalline lens	37	52.9
Wear glasses	Yes	43	61.4
	NO	27	38.6
Feel better after the operation	yes	38	54.3
	NO	32	45.7
Returned after short period	NO	43	61.4
	yes	27	38.6

Table 3 presented that 47.1% of the study sample have visual problems since 5-20 years, 45.9%, 23% of these problems was cataract and myopia respectively, most of the study sample have defect in both eyes and 47.1% conduct eye surgery, 61.4% of them wears glasses, 54.3% feel batter after operation, and 61.4% of the patients returned to vision problems after short period from operation as a results of complication of disease and treatment.

Table 4: Case and Control Patients Responses for Indian Vision Function (IVF)

Variables		Control NO.=70			Case NO.=70		
Physical Domain		Mean	SD.	Ass.	Mean	SD.	Grad
1	Climbing stairs	3.92	0.25	H.L	1.48	0.71	ML
2	making out the bumps and hole in the road when walking	3.90	0.30	H.L	0.71	0.67	LL
3	Reading Newspaper	3.84	0.36	H.L	0.67	0.76	LL
4	Finding your way in new places	3.77	0.42	H.L	0.76	0.71	LL
5	Going to social function such as wedding	3.87	0.33	H.L	0.71	0.75	LL
6	Going out at night	3.84	0.36	H.L	0.75	0.85	LL
7	Finding your way indoors	3.85	0.35	H.L	0.85	0.74	LL
8	Seeing the steps of the bus	3.85	0.39	H.L	0.74	0.81	LL
9	Recognizing people from a distance	3.71	0.54	H.L	0.81	0.69	LL
10	Recognizing the face of a person standing near you	3.82	0.48	H.L	0.69	0.80	LL
11	Locking or unlocking the door	3.85	0.39	H.L	0.80	0.69	LL
12	Doing your usual work in the house or out side	3.82	0.44	H.L	0.69	0.73	LL
13	Seeing television	3.81	0.39	H.L	0.73	0.66	LL
14	Searching for things at home	3.81	0.42	H.L	0.66	0.73	LL
15	Seeing when coming into the house after being in the Sunlight	3.80	0.49	H.L	0.73	0.73	LL
16	Seeing difference in color	3.84	0.40	H.L	0.73	0.73	LL
17	Seeing outside in bright sunlight	3.82	0.48	H.L	0.73	0.73	LL
18	Making out differences in coins or notes	3.84	0.52	H.L	0.73	0.69	LL
19	Going to the toilet	3.85	0.42	H.L	0.69	0.79	LL
20	Seeing objects that may have fallen in the food	3.81	0.42	H.L	0.79	0.76	LL
21	Seeing the level in the container when pouring	3.83	0.42	H.L	0.62	0.62	LL
Mean of means		3.83		H.L	1.2		LL
Psychosocial domain							
22	Frightened to go out at night	3.80	0.43	HL	1.70	0.74	ML
23	Enjoy social functions less	3.82	0.48	HL	1.60	0.74	ML
24	Ashamed that you can't see	3.80	0.40	HL	1.65	0.73	ML
25	You have become burden on other	3.78	0.53	HL	1.62	0.76	ML
26	Frightened that you may lose your	3.80	0.52	HL	1.41	0.64	ML
Mean of means		3.8		HL	1.5		ML
visual symptoms domain							
27	Do you have reduced vision	3.87	0.44	HL	1.51	0.73	ML
28	Are you dazzled in bright light	3.81	0.59	HL	1.58	0.73	ML
29	Is your vision blurred in sunlight	3.80	0.49	HL	1.62	0.72	ML
30	Does bright light hurt your eyes	3.75	0.52	HL	1.67	0.77	ML
31	Do you close your eye because of light from vehicles	3.72	0.56	HL	1.60	0.71	ML
32	Dose light seem like stars	3.81	0.45	HL	1.64	0.72	ML
33	Do you have blurred vision	3.77	0.59	HL	1.68	0.67	ML
Mean of means		3.8		HL	1.6		ML

***low level (LL): less than 1.3, **Medill level(ML): (1.4 -2.6) *** High Level(HL) : (2.7 – 4)**

Table 4 presented that the physical function of control group batter quality than case group through the mean of means which as 3.8 for control than 1.2 for case group, the psychosocial status of control group batter than psychosocial status for case group through the mean of means which as 3.8 for control, and 1.5 for case, and the mean of means of visual symptoms for control group was 3.8 than 1.6 for case group that means the control group high quality than case group in visual status.

Table 5: Total Mean of the Visual Functional Domains for Case and Control Groups.

INDF Domains	Case N=70		Control N=70	
	Mean	SD.	Mean	SD.
physical domain	26.11	3.70	80.55	2.01
Psychosocial domain	8.00	1.65	19.01	1.04
visual symptoms domain	11.32	1.96	26.55	1.22
Total means of means	15.14	2.43	42.04	1.42

Table 5 revealed that the quality of life for control group better than quality of life for case groups by total mean of means of Indian Vision Function domains which as 42.04, and 15.14 for case.

Table 6: Person Correlation Coefficients Between Visual Functional Domains and Case Study Visual Problems

Variables'		Physical Domain	Psychological Domain	Visual Complain Domain	Type of vision problem	Problems of Both Eye	Surgery In Eye	Wear glasses	Fell batter after operation	Return Vision Problem after operation
Physical Domain	Pearson Correlation	1	-.090-	-.121-	-.009-	-.179-	.107	.151	.057	-.025-
	Sig. (2-tailed)		.458	.319	.943	.139	.377	.212	.638	.840
	N	70	70	70	70	70	70	70	70	70
Psychological Domain	Pearson Correlation	-.090-	1	.121	.174	-.056-	.035	-.125-	-.122-	.392**
	Sig. (2-tailed)	.458		.319	.149	.647	.774	.301	.312	.001
	N	70	70	70	70	70	70	70	70	70
Visual Complain Domain	Pearson Correlation	-.121-	.121	1	-.086-	-.118-	.174	-.013-	.007	-.134-
	Sig. (2-tailed)	.319	.319		.481	.330	.150	.914	.953	.270
	N	70	70	70	70	70	70	70	70	70
Type of vision problem	Pearson Correlation	-.009-	.174	-.086-	1	-.111-	.056	.124	-.141-	-.052-
	Sig. (2-tailed)	.943	.149	.481		.359	.647	.306	.244	.669
	N	70	70	70	70	70	70	70	70	70
Problems in Both Eye	Pearson Correlation	-.179-	-.056-	-.118-	-.111-	1	.112	-.242*	-.398**	-.117-
	Sig. (2-tailed)	.139	.647	.330	.359		.355	.044	.001	.335
	N	70	70	70	70	70	70	70	70	70
Surgery In Eye	Pearson Correlation	.107	.035	.174	.056	.112	1	.043	-.340**	.043
	Sig. (2-tailed)	.377	.774	.150	.647	.355		.725	.004	.725
	N	70	70	70	70	70	70	70	70	70

Wear glasses	Pearson Correlation	.151	-.125-	-.013-	.124	-.242*	.043	1	.098	-.146-
	Sig. (2-tailed)	.212	.301	.914	.306	.044	.725		.421	.229
	N	70	70	70	70	70	70	70	70	70
Fell batter after operation	Pearson Correlation	.057	-.122-	.007	-.141-	-.398**	-.340**	.098	1	.023
	Sig. (2-tailed)	.638	.312	.953	.244	.001	.004	.421		.725
	N	70	70	70	70	70	70	70	70	70
Return Vision Problem after operation	Pearson Correlation	-.025-	.392**	-.134-	-.052-	-.117-	.043	-.146-	.023	1
	Sig. (2-tailed)	.840	.001	.270	.669	.335	.725	.229	.725	
	N	70	70	70	70	70	70	70	70	70

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows that there were highly significant between return of visual problems with psychological status of patients, significant relationship was appear between eye problems and patients wear class, and there were highly significant between patients feel batter after operation and their problems in both eyes at $p \geq 0.05$ value.

DISCUSSION:

The socio- demographic characteristics of present study for 70 thalassemia major patients (case) indicated that the 51.4% was males, the mean of score for age was ± 28.5 , 47.3% of them were single, 28.4% of them at higher education graduated, 28.4% was unemployed, 43.2% of the study with high income, and the characteristics of 70 thalassemia major (control) was 48.6% females, at ± 28.5 mean of age, 45.9% were continuous married, 18.9% of them was primary education graduated, 35.1% were unemployed, and 48.6% were high income (table 1). The present findings compatible with (9) results during determine the prevalence of ocular manifestation in their study on 80 thalassemia major patients, they revealed that (46males, 34 females) with age ranging between 6 to 16 years, have ocular involvements which as 85% of cases in the form of lens opacity, decreased visual acuity(45%), retinal pigment epithelium (RPE) mottling (25%), disc hyperemia(12.5%) and increased cup/disc ratio (37.5%) and these involvements were observed to be more in younger age. The lower levels of formal education were independently associated with poorer vision-specific mobility and more visual symptoms in thalassemic patients who have visual defect, these opinion agree with the findings of present study(10)

Forty percent of the case family was a mother and cousins is a carrier disease, 55.7% of the control study was a mother is a carrier disease in their family, 68.6% and 64.3% of the case and control groups respectively have regular desferral, 65.7%, 64.3% have both blood transfusion and desferral as a treatment respectively, and 41.4% of the case group have splenomegaly and 35.7% of control group have splenomegaly as a complication of disease (table2) The splenectomy was performed in 17(33.3%) female and 15 (42.9%) male patients. Cardiac complications like dilated cardiomyopathy, congestive heart failure and arrhythmia were in 15 female patients (29.4%) and 9 male patients (25.7%). Also, diabetes mellitus found in 4(7.8%) female patients and 2 male patients (5.7%). (11)

The presented findings presented that 47.1% of the study sample have visual problems since 5-20 years, 45.9%, 23% of these problems was cataract and myopia respectively, most of the study sample have defect in both eyes and 47.1% conduct eye surgery, 61.4% of them wears glasses, 54.3% feel batter after operation, and 61.4% of the patients returned to vision problems after short period from operation as a results of complication of disease and treatment. the ocular manifestation in multiple transfused beta-thalassemia major patients and assess the ocular side-effect of iron chelating agent, they assess that ocular involvement was observed in 58% of patients, Lenticular opacities were the most common ocular finding (44%), followed by decreased visual acuity (33%) (12). the

prevalence of ocular abnormalities in multi-transfused patients with β -thalassaemia receiving desferrioxamine and to determine the association of abnormalities with the patients' age, serum ferritin level, haemoglobin concentration, and dosage and duration of treatment with desferrioxamine on Twenty-five thalassaemic patients receiving desferrioxamine and attending the day-care centre of a tertiary care hospital in Delhi, India, and 25 healthy age-matched controls were examined to determine the prevalence and pattern of ocular abnormalities. (13)

physical function of control group in present study shows a better quality than case group through the mean of means which as 3.8 for control than 1.2 for case group, the psychosocial status of control group better than psychosocial status for case group through the mean of means which as 3.8 for control, and 1.5 for case, and the mean of means of visual symptoms for control group was 3.8 than 1.6 for case group that means the control group high quality than case group in visual status (table4 and 5) Sarah, et al., (2007) they funded in their study on 196 cases visually impaired from cataract and 128 population-based controls without visually impairing and assess their health related quality of life, they revealed that the cases had significantly poorer general functioning, psychosocial, overall eyesight and pain/discomfort scores than controls.(14) reduced visual acuity significantly reduces participation in social or religious activities, mobility, activities of daily living, and bilateral vision loss reduces the quality and length of life(10) There were highly significant in present finding of the study between return of visual problems with psychological status of patients, significant relationship was appear between eye problems and patients wear class, and there were highly significant between patients feel better after operation and their problems in both eyes at $p \geq 0.05$ value (table6). A bilateral vision loss reduces the quality and length of life. However, it has not been widely shown whether unilateral vision loss affects any aspects of quality of life. In comparison with people with normal vision, those with unilateral vision loss correctable by refraction did not have significantly poorer mean general health scores while those with non-correctable unilateral vision loss did have significantly poorer mean general health scores in the dimension of role limitation due to physical problems. Furthermore, people with moderate to severe non-correctable unilateral vision loss had significantly poorer mean physical and emotional health scores in three dimensions: "role limitation due to physical problems," "social functioning," and "role limitation due to emotional problems.(4)

CONCLUSION

Most of the study and control groups have regular desferral, high percent of them have both blood transfusion and desferral, most of the study and control groups have splenomegaly as a complication of disease, High percent of the study sample have visual complication for 5-20 years ago, most of them have cataract, most of the study sample have defect in both eyes and high percent of them was conducted eye surgery, the physical function of control group better quality of life than case group, the psychosocial status of control group better than psychosocial status for case group, and the visual symptoms for control group was better than case group

RECOMMENDATION

- 1- Screening and genetic counseling for hemoglobin disorders should be an intrinsic part of health care in country, as recommended by the WHO

- 2- Patients with thalassaemia should be screened periodically for ocular abnormalities. Rational usage of desferrioxamine and use of newer chelating agents will reduce the prevalence of these abnormalities.
1. 3-Establish rehabilitation centers for thalassemic patients who have visual problems in hospitals which treated thalasemia .
- 3- Psychological Program apply for those patients with visual problems to cope with the situation by training patients to daily life activities.

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