Original Article

Psychopathological tendencies and quality of life among patients with thalassemia major

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Objective: To explore the relationship between psychopathological tendencies and Quality of Life (QoL) among patients with Thalassemia major.

Methodology: In this correlational study, data were collected from the blood transfusion dependent patients of beta-thalassemia major in Rawalpindi and Islamabad hospitals from September to December 2014. Urdu version of Worlds Health Organization Quality of Life Scale-BREF (WHOQOL-BREF) and Brief Symptom Inventory (BSI) methods were administered on 74 patients of thalassemia major. Pearson Product Correlation, Independent Sample t-test, One-way ANOVA and Post Hoc analysis were used.

Results: There was higher levels of somatization, hostility and obsessive compulsive (OC) and lower levels of psychoticism. There was negatively affected social and psychological domains of life while comparatively better QoL related to environmental conditions of the patients. There was negative relationship between psychopathological tendencies and QoL among patients. Moreover, mother's education level negatively related with psychopathological tendencies among patients. Males scored high on depression and interpersonal sensitivity, whereas females scored high on anxiety, paranoid ideation and somatization. Female patients experienced better QoL as compared to male counterparts.

Conclusion: There were higher degrees of psychopathological tendencies among patients with thalassemia major which affected their QoL mainly on social and psychological domains. (Rawal Med J 201;43:32-38).

Key Words: Quality of Life, obsessive compulsive, thalasemia.

INTRODUCTION

The World Health Organization has identified thalassemia as the most predominant genetic blood disease in the world, found in more than 60 countries with a carrier population of up to 150 million.[1] Around 250 million people are heterozygotes for beta thalassemia and at least two million affected homozygotes are born annually, while some other sources have reported that 3% to 10% of the world's population carries a thalassemia gene.[2] Thalassemia is genetic blood disease and there are huge number of children in Pakistan and more than 40,500 add up in the suffering circle every year.[3]

Thalassemia leads to the damage of red blood cells for which there is no appropriate treatment. Individuals affected by this disease need blood transfusion throughout their life-span. It is lasting blood disorder and manifests in the early years of life leading to social, health, psychological and family issues for the patients and their immediate families.[4] Being a complicated and long lasting disease, thalassemia affects quality of life of the patients and their immediate family instigating financial, social, physical and psychological problems.[5] The child patients stand at high degree of risk to develop and exhibit psychosocial and conduct issues, such as passiveness, depression, anxiety and phobias, which ultimately affects their self-confidence and raises concerns on their quality of life.[6] Young Thalassemia child mostly have higher level of negative self-image as compared to normal and healthy children.[6,7]

Due to future concerns for patients and their families, certain fears and debates result in worsening of relationships among the associates, and increase isolation,[8] with occurrence of psychiatric disorders in them.[9] A study from Turkey showed that above the age of 12 years, patients

usually confront behavioural problems which are associated with poor performance at school.[10] Other studies have reported that multiple psychopathologies are common in thalassemia children.[11,12] High frequency of psycho-social disturbances warrants routine psycho-social screening and therapy for the thalassemia children and it should form a part of standard management protocol.[13] There is paucity of studies that addressed the psychological problem and quality of life among individuals suffering from thalassemia major.[5,14-17] The present study was aimed at finding out the quality of life and its relationship with the psychological problems of such patients.

METHODOLOGY

The data were collected randomly from 74 thalassemia major patients from September to December 2014. The study included 38 females (51.4%) and 36 males (48.6%) with ages ranging between 11 years to 26 years (mean 15.62±3.70). Institutional permission in the form of letter from university and parental permissions through signatures on consent forms were taken.

World Health Organization Quality of Life Questionnaire (WHOQOL-BREF) and BSI were used.[18,19] WHO QOL-BREF consists of 26 items and comprised of four subscales, which were physical functioning, psychological functioning, social dimension, and environment domain. The BSI was a 53-item inventory of psychological distress. It was shorter version of the Symptom Checklist List (SCL-90-R). It contains nine subscales, which are as following: obsession-compulsion, interpersonal sensitivity, anxiety, somatization, hostility, phobic anxiety, paranoid ideation, depression and psychoticism. Data were entered into SPSS version 18.0 for quantitative analyses.

RESULTS

Keeping in view the objectives of the study, the study took help from different statistical analyses to achieve a number of results (Table 1).

Patients showed higher tendencies of somatization, hostility, OC and their mean values were 17.29, 15.10, and 15.14, respectively. Results also provided evidence of negatively affected social and psychological domains of life among patients. Findings revealed negative correlation between psychopathological tendenciesand QoL (-.41**). Higher psychopathological tendencies led to lower level or impaired quality of life. Age of the patient was found to have non-significant relationship with psychopathological tendencies and QoL (Table 2).

The present study showed significant mean differences among gender groups. Results indicated significant difference on some subscales of BSI and QoL. Females scored high on anxiety and paranoid ideation. Their significant mean difference values were .03 and .03 respectively. Depression and interpersonal sensitivity was more prevalent among males than females andtheir significant values were .04 and .01, respectively. Quality of life was better among females than male patients of thalassemia major as females scored high on physical functioning and environment domain (Table 3). Their significant mean values were .00 and .04, respectively.

Children of mothers with low education level scored high on psychopathological tendencies than the educated mother's children. Depression, paranoid ideation and somatization were more prevalent among patients of uneducated mothers as compared to children of educated mothers. And quality of life was better among secondary level educated mother's children.

DISCUSSION

Thalassemia is one of the life threatening illness, it tends to shorten the life of suffering patients and has huge impact on their education and social activities.[20] Patients of thalassemia were observed for different psychological effects such as hostility, somatic complaints, anxiety and obsessive compulsive problems were more dominant in patients.[14,21] Moreover, the quality of life among these patients was low on social domain and psychological functioning.[22] This is very novel observation and further studies are needed to confirm this finding.[23]

Table 1. Correlation matrix between study variables (N=74).

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Age	_															
2	BSI	.56	_														
3	DEP	.03	.72**	_													
4	ANX	-.11	.74**	.45**	_												
5	PI	.17	.67**	.47**	.45**	-											
6	OC	.15	.59**	.41**	.38**	.36**	-										
7	HOS	-.12	.57**	.29**	.47**	.30**	.19	_									
8	SOM	.16	.56**	.36**	.40**	.34**	.09	.07	_								
9	IPS	.08	.56**	.42**	.38**	.28*	.36**	.26*	.24*	_							
10	PA	-.01	.68**	.37**	.38**	.38**	.39**	.50**	.18	.27*	_						
11	PSY	-.03	.70**	.42**	.48**	.42**	.26*	.27*	.43**	.25*	.51**	_					
12	QoL	-.07	-.41**	-.33*	-.27*	-.20	-.06	-.04	-.52**	-.33**	-.11	-.51**	_				
13	PHY	-.01	-.28*	-.18	-.24*	-.16	-.05	.05	.24*	-.33**	-.19	-.49**	63**	_			
14	PF	-.00	-.37**	-.28*	-.36**	-.26*	-.06	-.02	-.47**	-.12	-.01	-.47**	.81**	.41**	_		
15	SOC	-.09	-.27*	-.37**	-.09	-.04	-.17	-.03	-.20	-.37**	-.04	-.29	.74**	.38**	.51**	-	
16	ENV	-.10	-.32**	-.27*	-.15	-.15	-.02	-.09	-.53**	-.12	-.06	-.36**	.80**	-.17	.63**	.49**	_
	Mean	15.62	120.1	12.71	12.21	11.63	15.14	15.10	17.29	8.75	10.64	7.81	83.87	22.81	19.67	10.20	24.91
	S.D	3.70	24.39	4.62	4.53	3.70	3.79	3.94	4.13	3.39	3.96	3.28	11.88	3.60	3.32	2.40	5.28

Note. *P<.05, **P<. 01 BSI= Brief symptom Inventory, DEP = Depression, ANX=Anxiety, PI= Paranoid Ideation, OC= Obsessive Compulsive, HOS= Hostility, SOM= Somatization, IPS= Interpersonal Sensitivity, PA= Phobic Anxiety, PSY= psychoticism, QOL= Quality of Life, PHY=Physical Functioning, PF= Psychological Functioning, SOC= Social domain, ENV= Environment.

Table 2. t-test for gender comparison on study variables (N=74).

	Male (*n*=36)		Female (*n*=38)						
							CI 95%		
Variable	***M***	***SD***	***M***	***SD***	***t*(72)**	***p***	***LL***	***UL***	**Cohen's *d***
BSI	117.11	24.00	122.94	24.72	1.02	.71	-5.46	17.14	.23
DEP	1.69	.53	1.60	.77	.63	.04	-.40	.21	.13
ANX	1.95	.59	2.11	.88	.91	.03	-.19	.51	.21
P I	2.13	.78	2.50	.65	2.18	.03	.03	.70	.51
O C	2.45	.63	2.58	.63	.87	.97	-.16	.42	.20
HOS	2.8	.83	3.22	.69	2.36	.30	.06	.77	.44
SOM	2.42	.67	2.48	.50	.43	.07	-.21	.33	.10
I P S	2.26	.96	2.11	.73	.73	.01	-.54	.24	.17
P A	2.03	.85	2.21	.72	.95	.31	-.19	.56	.22
PSY	1.63	.89	1.49	.62	.90	.89	-.44	.16	.18
QOL	81.58	12.12	86.05	11.39	1.63	.27	-.98	9.91	.38
PHY	3.07	.69	3.32	.42	1.89	.00	-.01	.51	.43
PF	3.18	.54	3.36	.55	1.36	.75	-.08	.42	.33
SOC	3.18	.78	3.60	.77	2.31	.61	.05	.78	.54
ENV	3.09	.53	3.18	.70	.58	.04	-.20	.37	.14

Note. BSI= Brief symptom Inventory, DEP = Depression, ANX=Anxiety, PI= Paranoid Ideation, OC= Obsessive Compulsive, HOS= Hostility, SOM= Somatization, IPS= Interpersonal Sensitivity, PA= Phobic Anxiety, PSY= psychoticism, QOL= Quality of Life, PHYF=Physical Functioning, PF= Psychological Functioning, SOC= Social domain, ENV= Environment.

The findings of the study showed negative relationship between psychopathological tendencies and quality of life, consistent with the results of previous researches. Shaligram et al assessed psychological problems in thalassemia patients and found negative correlation between quality of life and psychological problems. It was concluded that to enhance quality of life of the thalassemia patients it is imperative to identify and administer the psychological difficulties face by the patients.[5]

Individuals suffering from thalassemia grow negative thoughts in their mind about themselves by feeling weaker than their associates. They usually develop anxiety, sense of guilt and low self-esteem. They also develop severe psychosocial issues due to confronted complications of painful chelation, thoughts about their future and their family life. All these factors result in failure of these patients to meet relationship expectations, increase downgrading themselves, and separation from their environment. These factors may cause psychopathological tendencies, which lead to impaired quality of life. Another study also reported that quality of life of a thalassemia patient and psychological issue have noteworthy negative correlation.[21]

Depression is associated with poor quality of life

among patients with beta thalassemia major/intermedia; however somatic comorbidities and anxiety are associated with poor quality of life. Quality of life of younger patients is highly affected compared to others. Lower level of quality of life results in high level of anxiety and despair in younger thalassemia patients.[24]

Findings supported that the mother's education level negatively relates to psychopathological tendencies among thalassemia major patients. Appearance of the disease, its knowledge and awareness, availability of treatment, survival rate and psychosocial problems may bring hitches to maximum possible health care i.e. identification of the status and proper tests of the carrier.

Gender differences were also significant among groups. Females were high on anxiety, paranoid ideation whereas males scored high on depression and interpersonal sensitivity. Females receive more social support as compare to male patients,which may be the cause of better quality of life among female patients.[4]

The sample of the present study mostly based on adolescents. Adolescents gave fewer spontaneous responses. Because they were not able to express their own opinion, or their self-contemplating abilities were less developed than their older corresponding persons. In contrast to adolescents, in grown up patients there was a distinct shift of concerns from a focus on the immediate environment and oneself to the future and the larger social environment.[24] In this study, the source of the data collection from patients was questionnaires. For further studies it would be more appropriate to collect data from other qualitative sources. Patient's refusal to openly express their opinions, unwillingness to cooperate due to weakness and lack of energy could be limitations of the study.

Table 3. One-way ANOVA for comparing thalassemia patients of mothers having different education level on psychopathological tendencies and quality of life of the patients (N=74).

	Uneducated		**Secondary**		**Matric- Masters**						
	(*n*=36)		**(*n*=24)**		**(*n*=14)**				**D= *i* – *j***	**95 % CI**	
Variables	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*i* > *j*		*LB*	*UB*
BSI	125.63	25.63	109.75	15.01	123.64	29.59	3.45*	1>2	15.88*	.63	31.14
DEP	1.84	.66	1.37	.51	1.60	.75	3.92*	1>2	.47*	.05	.88
ANX	2.07	.80	1.70	.36	2.48	.90	5.39*	3>2	.77*	.19	1.36
PI	2.50	.58	2.00	.67	2.42	1.02	3.57*	1>2	.49*	.02	.95
OC	2.51	.59	2.46	.62	2.65	.76	.40				
HOS	3.04	.73	2.93	.81	3.11	.91	.25				
SOM	2.72	.62	2.17	.41	2.31	.49	8.08*	1>2	.54*	.19	.89
IPS	2.30	.82	2.16	.91	1.92	.79	1.00				
PA	2.20	.91	2.01	.48	2.14	.91	.38				
PSY	1.60	.70	1.39	.42	1.75	.82	1.50				
QOL	80.50	10.07	87.45	10.73	86.42	15.95	3.02*				
PHY	3.09	.59	3.38	.48	3.16	.66	1.81				
PF	3.22	.46	3.46	.56	3.10	.68	2.29				
SOC	3.27	.81	3.51	.61	3.52	1.04	.82				
ENV	3.94	.48	3.24	.63	3.44	.79	4.03*	1>3	-.50*	-.96	-.03

Note. *p < .05. BSI= Brief symptom Inventory, DEP = Depression, ANX=Anxiety, PI= Paranoid Ideation, OC= Obsessive Compulsive, HOS= Hostility, SOM= Somatization, IPS= Interpersonal Sensitivity, PA= Phobic Anxiety, PSY= psychoticism, QOL= Quality of Life, PHY=Physical Functioning, PF= Psychological Functioning, SOC= Social domain, ENV= Environment.

CONCLUSION

There were higher degrees of hostility, anxiety, obsessive symptoms, somatic symptoms, and depressive symptoms among patients of thalassemia. Quality of life was affected on social and psychological domain. Psychopathological tendencies negatively correlated with quality of life. Moreover, mother's lower level of education was also found to be negatively related with the prevalence of psychopathological tendencies among thalassemia major patients. The evaluation of these patients psychological life will have to be routine, a psychological support system and awareness programs for care givers will be helful.

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