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Social support as a predictor of psychological well-being of transfusion dependent thalassemics

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Abstract---Aim: The objective of the present study was to assess the relationship between interpersonal social support and psychological well-being of the Thalassaemic Major patients in the age range of 18-32 years. Method: A descriptive survey was conducted and a sample of 67 transfusion dependent thalassaemic majors from all over Gujarat (male-53, female-14) was drawn through purposive and snowball sampling method. Two tools were employed for data collection, namely Ryff's Psychological Well-Being Scale (PWB) and Interpersonal Support Evaluation List (ISEL). Both these tools were translated to Gujarati language for facilitating the responses. The data were collected through a google form and analysed employing Pearson's Product Moment Correlation and *t*-test. Results: Interpersonal social support has been found to be significantly positively correlated with psychological well-being of the patients establishing the predictivity of psychological well-being of the thalassaemic on the basis of interpersonal social support. No significant mean difference has been found between the males and females on both the interpersonal social support and psychological well-being. Also, no significant mean difference has been found between the two age groups of 18-25 and 25-32 years on both the interpersonal social support and psychological well-being. Conclusion: The study determines that when a thalassaemic person has adequate amount of social support, that person appears to have better psychological well-being despite the age and whether the person is male or female. Implications: The study can

be used to develop a module that would help improve psychological well-being and quality of life of thalassaemic patients. The study can also help our society to understand the amount of stress thalassaemic patients go through in their daily life. Having warm, supportive relationships is a very important part in everybody's life. Friends, including co-workers, classmates, and family members can offer support in managing thalassemia.

Keywords---interpersonal social support, psychological well-being, thalassaemic, transfusion dependent.

Introduction

Thalassemia is one of the most common monogenetic disorders in the world. It is caused when the body does not make the required amount of haemoglobin, thereby causing a lack of oxygen in the other cells of the body leading to a condition called anaemia, which can be mild or severe and cause the person with it to feel tired, weak or short of breath. Based on the affected chain type, thalassemia is divided into α -thalassemia, β -thalassemia, γ -thalassemia and δ -thalassemia. There are three standard treatments used by doctors for the treatment of patients with moderate or severe forms of thalassemia which are – blood transfusion, iron chelation therapy, and the use of folic acid supplements. For people who have moderate to severe thalassemia, the principal treatment is mostly transfusion of red blood cells. Transfusions and oral iron chelation therapy have remarkably expanded the life expectancy of patients having thalassemia major. To maintain a pre- transfusion Hb level (9.0 – 10.5 g/dL) in the patients, every 2-5 weeks blood transfusions are administered. This system allows for normal growth and physical activity.

Along with the chronic nature of the disease, it has contributed to a whole new series of complications – both physical and psychological – in adolescents and young adults who are suffering from thalassemia major. Physical complications can include cardiac complications (cardiac disorders and in particular left- sided heart failure hemosiderotic cardiomyopathy, pulmonary hypertension, arrhythmias, systolic/diastolic dysfunction, pericardial effusion, etc.), endocrine complications (hypogonadotropic hypogonadism, glucose intolerance in adolescence and overt diabetes in later life, etc.) thyroid dysfunction, hepatic complications, etc., among a range of other complications.

Chronicity of the illness, complications in treatment, challenges in financial, social and personal aspects, lack of family and social support, changing of body-image, impaired self- esteem, etc. can be considered to be some of the causes for high frequency of depression and anxiety among the patients having thalassemia. The patients having thalassemia can be prone to a lower quality of life because of the struggles that they have to go through which may include employability, finding suitable partners, starting a family etc. Patients having this disease are almost three times more susceptible to depression than the general population while low self-esteem has been observed in most of the children with thalassemia. Based on different studies it has been found that one of the factors that can

increase the risk of psychological illnesses in patients with thalassemia is the lack of social support.

Social support refers to the institution of social interactions and empathic relations, as a result of which the patients are provided with a safe network which in the due course of time help them cope with conditions and problems they go thorough and also help them have a better feeling towards themselves. Gaining social support can play a protective role against mental and physical health problems and can decrease the level of depression and anxiety while facing the challenges in their lives. The results of different studies have shown that social support has a positive connection with self-care in thalassemia patients and a patient's family is the most important source of social support for them.

The present study aimed to see how the social support is a predictor of mental health in Thalassaemic (major) patients (who are dependent on blood-transfusions). The objectives of the study are: To study the correlation amongst interpersonal social support and psychological well- being of the Thalassaemic Major patients, To study the difference between the two genders studied, i.e., male and female in terms of psychological well-being and social support, and To study the difference between the two age groups i.e., 18-25 years and 25-32 years in terms of psychological well-being and social support.

Material and Methods

Participants in the current study included 67 respondents out of which 53 were males and 14 were females. The participants of the age 18 to 25 years were 43 and participants of the age 25 to 32 years were 24 in total. Purposive and snowball sampling was used in transfusion dependent thalassemia patients of the age of 18 to 25 and 25 to 32 years. The responses were collected from various cities of Gujarat using a google form consisting of self-reported questions.

Tools

The research included indices of psychological assessment scales namely Ryff's Psychological Well-Being Scales (PWB) and Interpersonal Support Evaluation List (ISEL). The Ryff's Psychological Well-Being Scale (PWB) – 42 item version consist of a series of statements reflecting the six areas of psychological well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The Interpersonal Support Evaluation List (ISEL) aims to assess the extent to which the person has the support of others to face stressful situations. It is a widely used 40-item scale made up of four subscales, Tangible Support, Belonging Support, Self-esteem Support, and Appraisal Support.

Data Analysis and Interpretation

Table 1: Data depicting the group statistics sorted by age
To study the significant difference between the means of the two groups via t-test.

Dimensions	Age	N	Mean	Std. Deviation	Std. Error Mean
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Autonomy	18 to 25 years	43	24.1395	4.30714	.65683
	25 to 32 years	24	23.4167	2.78063	.56759
Environmental mastery	18 to 25 years	43	24.0233	4.57992	.69843
	25 to 32 years	24	25.0000	4.27327	.87228
Personal Growth	18 to 25 years	43	23.5814	3.95349	.60290
	25 to 32 years	24	24.5833	3.80979	.77767
Positive Relations	18 to 25 years	43	25.6977	4.54886	.69369
	25 to 32 years	24	25.8333	4.07182	.83116
Purpose in life	18 to 25 years	43	22.9070	4.04036	.61615
	25 to 32 years	24	24.0417	3.34247	.68228
Self-acceptance	18 to 25 years	43	25.0465	4.69018	.71525
	25 to 32 years	24	25.7500	3.77923	.77143
Appraisal Support	18 to 25 years	43	19.2093	4.75874	.72570
	25 to 32 years	24	19.8333	4.79734	.97925
Tangible Support	18 to 25 years	43	18.1860	4.33840	.66160
	25 to 32 years	24	19.3750	5.14834	1.05090
Self-Esteem Support	18 to 25 years	43	19.5814	4.11867	.62809
	25 to 32 years	24	20.4167	4.38294	.89466
Belonging Support	18 to 25 years	43	19.2326	4.69466	.71593
	25 to 32 years	24	20.1250	4.87507	.99512

The table 1 indicates the data of two age groups – 18 to 25 years and 25 to 32 years. The data reveals that there is no significant correlation between the age groups (18 to 25 years and 25 to 32 years) of the participants. The standard error of the mean indicates the difference between the population parameter or says the sample statistic. The sample is hence not representative of the population.

Table 2: Data depicting the group statistics sorted by Gender
To study the significant difference between the means of the two groups via t-test

Dimensions	Gender	N	Mean	Std. Deviation	Std. Error Mean
Autonomy	Male	53	23.9434	4.11571	.56534
	Female	14	23.6429	2.53004	.67618
Environmental mastery	Male	53	24.1887	4.62874	.63581
	Female	14	25.0714	3.85236	1.02959
Personal Growth	Male	53	24.0755	3.97032	.54537
	Female	14	23.4286	3.73578	.99843
Positive Relations	Male	53	25.6604	4.47619	.61485
	Female	14	26.0714	3.98968	1.06629
Purpose in life	Male	53	23.2642	4.00553	.55020
	Female	14	23.5000	3.13172	.83699
Self-acceptance	Male	53	25.2075	4.50794	.61921
	Female	14	25.6429	3.93421	1.05146
Appraisal Support	Male	53	19.5094	4.69706	.64519
	Female	14	19.1429	5.09686	1.36219

Tangible Support	Male	53	18.5660	4.80588	.66014
	Female	14	18.7857	4.11710	1.10034
Self-Esteem Support	Male	53	19.6792	4.21432	.57888
	Female	14	20.6429	4.21731	1.12712
Belonging Support	Male	53	19.4340	4.58891	.63033
	Female	14	20.0000	5.44906	1.45632

The data of the Table 2 indicates that there is no significant correlation between the gender (Male and Female) of the participants. The standard error is an indication of the reliability of the mean; in this case it is revealed from the data that the sample is not representative of the population and there is no significant correlation between the two genders.

Table 3: Data representing the correlation between the dimensions of psychological well-being and interpersonal social support scales

Correlations										
	Autonomy	Environmental mastery	Personal Growth	Positive Relations	Purpose in life	Self-acceptance	AppraisalSupport	Tangible Support	Self- Esteem Support	BelongingSupport
Autonomy	1									
Environmental Mastery	.539**	1								
PersonalGrowth	.427**	.425**	1							
Positive Relations	.461**	.590**	.521**	1						
Purposein life	.494**	.324**	.415**	.389**	1					
Self- Acceptance	.683**	.692**	.546**	.562**	.497**	1				
Appraisal Support	.247*	.492**	.309*	.514**	.172	.396**	1			
TangibleSupport	.109	.284*	.296*	.383**	.054	.210	.610**	1		
Self- Esteem Support	.195	.396**	.410**	.445**	.336**	.359**	.666**	.589**	1	
Belonging Support	.137	.442**	.269*	.562**	.117	.288*	.724**	.671**	.571**	1
**. Correlation is significant at the 0.01 level (2-tailed).										
*. Correlation is significant at the 0.05 level (2-tailed).										

Table 4: t-test results of the effects of dimensions of psychological well-being and social support in different age groups of thalassemic patients as shown below

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Autonomy	Equal variances assumed	2.063	.156	.739	65	.462	.72287	.97768	-1.22969	2.67543

	Equal variancesnot assumed			.83 3	63.4 93	.408	.72287	.86810	- 1.011 62	2.45736
Environmental mastery	Equal variances assumed	.125	.725	- .85 7	65	.395	-.97674	1.13992	- 3.253 33	1.29984
	Equal variancesnot assumed			- .87 4	50.5 64	.386	-.97674	1.11744	- 3.220 57	1.26708
Personal Growth	Equal variances assumed	.021	.884	- 1.0 07	65	.317	-1.00194	.99454	- 2.988 18	.98430
	Equal variancesnot assumed			- 1.0 18	49.2 20	.314	-1.00194	.98400	- 2.979 14	.97527
Positive Relations	Equal variances assumed	.001	.980	- .12 1	65	.904	-.13566	1.11755	- 2.367 55	2.09624
	Equal variancesnot assumed			- .12 5	52.3 05	.901	-.13566	1.08261	- 2.307 76	2.03645
Purpose in life	Equal variances assumed	.115	.736	- 1.1 69	65	.246	-1.13469	.97029	- 3.072 49	.80311
	Equal variancesnot assumed			- 1.2 34	55.5 72	.222	-1.13469	.91932	- 2.976 62	.70724
Self-acceptance	Equal variances assumed	.864	.356	- .62 9	65	.532	-.70349	1.11844	- 2.937 17	1.53020
	Equal variancesnot assumed			- .66 9	56.6 25	.506	-.70349	1.05199	- 2.810 37	1.40339
Appraisal Support	Equal variances assumed	.035	.851	- .51 3	65	.610	-.62403	1.21601	- 3.052 57	1.80451
	Equal variancesnot assumed			- .51 2	47.3 75	.611	-.62403	1.21884	- 3.075 52	1.82745
Tangible Support	Equal variances assumed	.004	.947	- 1.0 05	65	.318	-1.18895	1.18257	- 3.550 70	1.17280
	Equal variancesnot assumed			- .95 7	41.2 92	.344	-1.18895	1.24182	- 3.696 31	1.31841
Self-Esteem Support	Equal variances assumed	.044	.835	- .77 8	65	.439	-.83527	1.07374	- 2.979 68	1.30914
	Equal variancesnot assumed			- .76 4	45.2 41	.449	-.83527	1.09312	- 3.036 61	1.36607
Belonging	Equal	.001	.971	-	65	.464	-.89244	1.21266	-	1.52941

Support	variances assumed			.736					3.31429	
	Equal variances not assumed			.728	46.194	.470	-.89244	1.22589	-3.35976	1.57488

t-test was used to interpret a statistical analysis and compare the means of the two groups. It helped to identify the effect of psychological well-being and social support on the population of interest. The population interest here was divided into two age groups - 18 to 25 years old and 25 to 32 years old. The t-test identifies that the two groups are different and varied from one another.

Table 5: t-test results of the effects of the dimensions of psychological well-being and social support in two different genders of thalassemic patients as shown below

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Autonomy	Equal variances assumed	2.056	.156	.260	65	.796	.30054	1.15725	-2.01065	2.61173
	Equal variances not assumed			.341	33.441	.735	.30054	.88138	-1.49174	2.09282
Environmental mastery	Equal variances assumed	.350	.556	-.655	65	.515	-.88275	1.34748	-3.57386	1.80836
	Equal variances not assumed			-.729	23.935	.473	-.88275	1.21008	-3.38059	1.61509
Personal Growth	Equal variances assumed	.000	.991	.549	65	.585	.64690	1.17930	-1.70832	3.00212
	Equal variances not assumed			.569	21.438	.576	.64690	1.13767	-1.71607	3.00987
Positive Relations	Equal variances assumed	.006	.938	-.312	65	.756	-.41105	1.31713	-3.04154	2.21943
	Equal variances not assumed			-.334	22.461	.742	-.41105	1.23086	-2.96066	2.13856
Purpose in life	Equal variances assumed	.062	.804	-.204	65	.839	-.23585	1.15590	-2.54435	2.07265
	Equal variances not assumed			-.235	25.473	.816	-.23585	1.00163	-2.29681	1.82511
Self- acceptance	Equal	.626	.432	-	65	.743	-.43531	1.32193	-3.07538	2.20476

	variances assumed			.329						
	Equal variances not assumed			-.357	22.892	.725	-.43531	1.22024	-2.96024	2.08962
Appraisal Support	Equal variances assumed	.300	.586	.255	65	.799	.36658	1.43627	-2.50185	3.23501
	Equal variances not assumed			.243	19.245	.810	.36658	1.50726	-2.78545	3.51860
Tangible Support	Equal variances assumed	.410	.524	-.156	65	.876	-.21968	1.40518	-3.02602	2.58667
	Equal variances not assumed			-.171	23.288	.866	-.21968	1.28317	-2.87231	2.43296
Self-Esteem Support	Equal variances assumed	.192	.663	-.761	65	.450	-.96361	1.26656	-3.49310	1.56588
	Equal variances not assumed			-.760	20.408	.456	-.96361	1.26709	-3.60333	1.67611
Belonging Support	Equal variances assumed	.849	.360	-.395	65	.694	-.56604	1.43436	-3.43066	2.29858
	Equal variances not assumed			-.357	18.168	.725	-.56604	1.58688	-3.89775	2.76568

t-test was used to interpret a statistical analysis and compare the means of the two groups. The t-test helped to identify the effect of psychological well-being and social support on the population of interest. The population interest here was divided into two genders – male and female. The t-test identifies that the two groups are different and varied from one another.

Table 6: Data representing the correlation between psychological wellbeing and interpersonal support

	Psychological Wellbeing	Interpersonal SocialSupport
Psychological Wellbeing	1	0.479
Interpersonal Social Support	0.479	1

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

It is evident from Table 6, that there is a significantly high correlation between Interpersonal Support and Psychological well-being as a whole of Thalassemia Major Patients who are dependent on blood-transfusions. It can be noted that in the lives of Thalassemia Major Patients the psychological well-being which is positive mental state of a person and social support that is the support that an

individual believes to be available are correlated. It can be taken into account from the table that there is highly significant correlation between the two since $r = 0.479$, $p > 0.01$. The Thalassemia Major Patients with a high level of perceived social support also scored high on dimensions of psychological well-being. The correlation between the two also highlights the importance of social support to ensure well-being of the individual.

Discussion

According to the first hypothesis, "There is no significant correlation amongst interpersonal social support scores and psychological well-being scores of the Thalassemia Major patients." The results section shows the correlations between the different dimensions of interpersonal social support and psychological well-being. There is strong correlation between some of the dimensions, for example, there is a highly significant and strong correlation between autonomy and personal growth, self-acceptance etc. At the same time there is no significant relation between some other dimensions, for example, there is no significant correlation between autonomy and tangible support, self-esteem support etc. The score for correlational analysis between interpersonal social support and psychological wellbeing is 0.479 which is both positive and significant. This indicates that there is a strong correlation between the two variables. Hence, it can be suggested that the patients having thalassemia who are perceived to have increased social support appear to have better psychological well-being. Studies conducted on the psychological well-being of thalassemia patients have shown a very high frequency of depression and anxiety among the patients who have thalassemia. The patients can be vulnerable to a lower quality of life because of the personal struggles like employability, finding suitable partners, starting a family etc. that they have to go through. An increase in the risk of psychological illnesses in patients with thalassemia has been found to be a lack of social support. A benefit of the increase in the amount of social support is that it can play a role in shielding against mental and physical health problems. It can also decrease the level of depression and anxiety while facing the challenges in their lives. Poudel, Gurung & Khanal (2020) found that through mediating variable which was self-esteem, the perceived social support (PSS) indirectly affected the psychological well-being (PWB) in adolescents. Adolescents who recognized good social support had higher self-esteem. This in succession contributed to their psychological wellbeing. As mentioned by WHO, most studies conclude that more the patients are supported, the more they develop a positive outlook on life and develop better coping strategies. Thus, the first hypothesis stands rejected because we find significant correlation between the two variables.

The second hypothesis states that "There is no significant difference between the two genders i.e., male and female in terms of psychological well-being and social support". Looking at Table 3 in the results section, it can be concluded that the mean scores of group data based on the two genders on almost all the elements like self-acceptance, belonging support, personal growth, etc., were near to each other hence showing that there is no significant relationship between whether the participant was male or female. Some studies that had been conducted to find the relationship between social support and mental health have shown that for men there have been stronger positive relationships between social support and well-

being than there have been for women (Stansfeld, Fuhrer & Shipley, 1998). On the other hand, there also have been studies by researchers like Paykel (1994) and Williams et al. (1981) that have shown that there have been ambiguous effects of social support on the mental health of both men and women. Thus, the second hypothesis is accepted.

The third and final hypothesis in this study states that “There is no significant difference between the two age groups i.e., 18-25 and 25-32 in terms of psychological well-being and social support”. Table 2 shows that the mean scores of all the elements for the two age groups like autonomy, appraisal support, tangible support, etc., are nearly the same. Thus, it can be determined that there is no significant relationship between the two age groups. Thus, the third hypothesis is accepted.

In one of the studies, it was found that the children with thalassemia in families with more ideal functional levels have a higher sense of well-being, and children with thalassemia who score higher in all aspects of family function have a higher sense of well-being. Poudel, Gurung & Khanal (2020) found that adolescents are expected to have better psychological well-being when they feel that they have a high level of social support. Thus, the third hypothesis is accepted.

Limitations

The findings of this study have to be seen in the light of some limitations. The following few limitations were present –

- The sample size of the study was too small. A larger sample size would have generated more accurate results.
- The study included more male participants and fewer female participants leading to a gender imbalance. This suggests that the study is not representative of the population.
- Participants in the study were not randomly selected and as a result response bias may have taken place due to social desirability.
- Participants of the study represented a single geographical location so the generalizability of the results may be limited.

Recommendations

- The study can be used to further investigate the psychological well-being of thalassaemic patients by acquiring data from a larger sample representing both genders fairly.
- Further investigations can be made in identifying the relation between interpersonal social support and psychological well-being of thalassaemic patients by using a combination of qualitative and quantitative data to produce a richer and more comprehensive understanding of research.
- Suggestion for future studies includes increasing the sample size and including gender balance in the research to ensure accurate results.
- Future research can be based on the identifying relation between interpersonal social support and psychological well-being of thalassaemic patients across a wider age range to gather data on a larger scale.

Implications

- The study can be used to develop a module that would help improve psychological well-being of thalassaemic patients.
- Some possible implications that arise from the current findings may help to improve quality of life of thalassaemic patients and the results of the findings can be used to design initiatives to increase the psychological well-being of individuals.
- The study can help create self-awareness among thalassaemic patients, about their psychological state of mind and well-being.
- This study can be helpful to reduce the iron burden and improve survival in transfusion-dependent thalassemia patients because eating nutritious foods is important for everyone to maintain a healthy lifestyle – a diet high in fruits and vegetables and low in fats is ideal for gaining the essential nutrients our bodies need. For people living with thalassemia, because too much iron may build up in the blood, foods high in iron may need to be limited.
- The study can also help our society to understand the amount of stress thalassaemic patients go through in their daily life. Having warm, supportive relationships is a very important part in everybody's life. Friends, including co-workers, classmates, and family members can offer support in managing thalassemia.

Conclusion

As seen in the results, the correlation between interpersonal social support scores and psychological well-being scores is positive and highly significant. It means that there is a highly significant correlation between interpersonal social support and psychological wellbeing. According to the results the mean scores of both the genders for each of the dimensions is near to each other. Hence, resulting in no significant correlation between the two genders. Since all the mean scores for the different dimensions are nearly equal, it can be concluded that there is no significant correlation between the two age groups.

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