

“LEVEL OF AWARENESS ABOUT THALASSEMIA AMONG FUTURE HEALTH CARE PROVIDERS”.

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ABSTRACT

INTRODUCTION: Thalassemia is an autosomal recessive disorder of red blood cells. In Pakistan, thalassemia is one of the serious health problems with gene frequency about 5-8% resulting in approximately 9 million carriers of beta thalassemia responsible for 5000-6000 yearly birth of transfusion dependent thalassemia. The acquaintance about thalassemia is very inadequate amongst the public in developing nations. **OBJECTIVE:** To determine the level of awareness about thalassemia among future health care providers in Sheikh Zayed Medical College/Hospital Rahim Yar Khan (R.Y.K). **METHODOLOGY: STUDY POPULATION:** This research was performed in imminent health care workers in the district Rahim Yar Khan's tertiary care hospital. **STUDY TYPE:** Cross sectional survey based study, with random purposive sampling technique. **METHOD:** A pre-designed survey form which comprises of altogether data about name, age, gender of contributors and questions about thalassemia was distributed among future health care providers including MBBS, Nursing and students of B.Sc. allied health sciences to evaluate awareness level. A total 13 questions were inquired to evaluate the level of knowledge about thalassemia. The knowledge level was determined by splitting the answers in three sets viz. contributors who gave less than six correct answers were believed as holding poor knowledge, who gave six to ten correct answers were believed as holding average knowledge and those who gave answers more than ten to thirteen were believed as holding good knowledge. **RESULTS:** Out of 400 subjects 294(73.5%) subjects have good knowledge of thalassemia, 92(23.0%) have an average knowledge about thalassemia however just 14(3.5%) have poor knowledge regarding thalassemia. **CONCLUSION:** In the future health care providers there is enough knowledge regarding thalassemia hence they can tackle this preposterous entity with full heart and help to make a thalassemia free Pakistan.

KEYWORDS: Beta Thalassemia, Thalassemia, Awareness, Health Care Providers

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INTRODUCTION

Thalassemia is at most a common traditional hemolytic anemia in the world as well as in our country.^{1, 2} there are two types of thalassemia, Alpha & Beta, depending upon the lack or reduction of one or the other alpha or beta globin chains³. Beta thalassemia is further categorized into three type's viz. T. Major, T. Intermedia and T. Minor based on clinical seriousness and genetics⁴. The excessive occurrence is existing in the Mediterranean region, Middle East, Indian

Subcontinent and Southeast Asia.⁵ Around 7% of world population has clinically apparent thalassemic disorder resulting in annual birth of around one lakh offspring with awful variety of thalassemia.^{6, 7} In about two-hundred million population of world 3% are considered as carrier of β -thalassemia in which topmost carrier occurrence is seen in Cyprus (14%) followed by Sardinia (10.3%) and Southeast Asia (1-9%)⁸. The carrier occurrence in our country is about 5-8% producing nearby 9.8 million carriers with

yearly birth of nearby 5000 thalassemia major cases.^{9,10,11} Individuals affected by beta thalassemia major (β^0) develop severe anemia, splenomegaly and bone deformities with average survival up-to 2nd decade of life. A cure is possible only with bone marrow or stem cell transplantation¹² which is of high cost and generally supportive treatment including regular blood transfusion and iron chelation is necessary to maintain life. Although repeated blood transfusion & iron chelation has prolonged the lifespan of thalassemia children up-to 4th or 5th decade of life in numerous centers of the globe.¹¹ Iron overload if not treated properly leads to many life threatening cardiac & hepatic complications¹³ which restricts the life expectancy beyond 10 years as happening in many of the centers in Pakistan.¹⁴

As thalassemia is a chronic illness which has a morbidity & mortality having ultimate control only by prevention. Preventive measures include awareness of thalassemia to general public and health professionals, investigation of over-all residents for carrier status, antenatal analysis in pairs recognized to be at chance and termination of thalassemia major fetus. The acquaintance about thalassemia is very inadequate amongst the public in developing nations. There is a faint literacy rate in our country which is also a major hitch in the enlightening the knowledge of alertness which has been supported in various studies.^{15,16} The disease prevalence is more in the rural part of country again supporting the role of awareness and education in prevention of disease.¹⁶ The reduction and prevention of this disease mortality can only be achieved by educating the over-all Residents.¹⁷ Increase in fundamental understanding in the society about thalassemia has a great power in decreasing the frequency of disease.^{15,18} For that purpose, the present research has been performed to estimate the wakefulness level about thalassemia amongst future health care providers viz. MBBS, Nursing and Allied Health Sciences students.

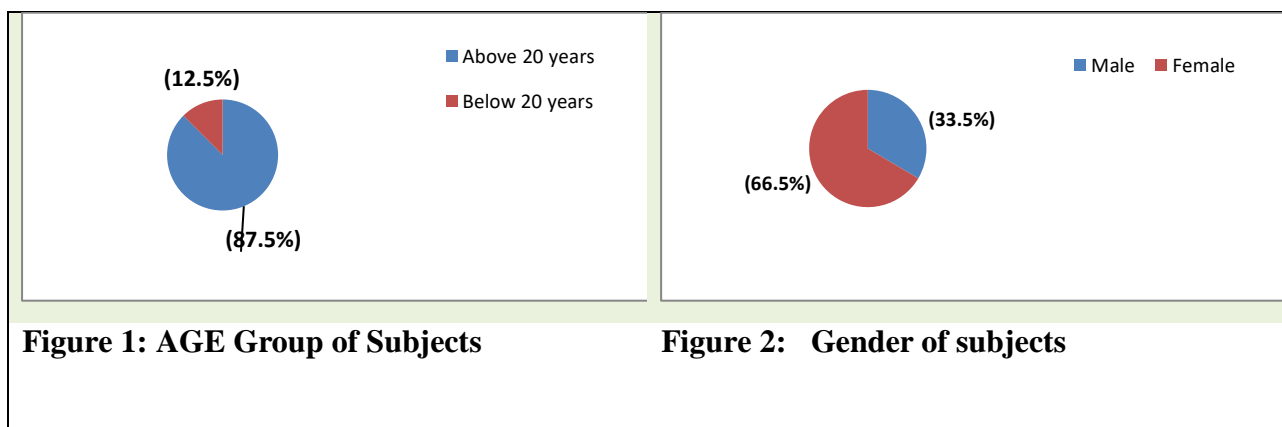
To determine the level of awareness about thalassemia among future health care providers in Sheikh Zayed Medical College/Hospital, Rahim Yar Khan.

SUBJECTS & METHODOLOGY:

This Cross sectional descriptive study was performed in imminent health care providers over a period of six months from December 2019 to May 2020 in the district Rahim Yar Khan's tertiary care hospital which also have a 26 bedded center "Center for Thalassemia Care (CTC)", that is catering the residents of nearby ten million of district Rahim Yar Khan & neighboring regions of Sindh and Baluchistan, four hundred subjects with purposive sampling were interviewed and a pre-designed survey form which comprises of altogether data about name, age, gender of contributors and questions about thalassemia. The students of 3rd and 4th year of MBBS, Nursing and Allied health sciences were included as study subjects. Thirteen questions were asked to judge the level of awareness about thalassemia. The knowledge level was determined by splitting the answers in three sets viz. contributors who gave less than six correct answers were believed as holding poor knowledge, who gave six to ten correct answers were believed as holding average knowledge and those who gave answers more than ten to thirteen were believed as holding good knowledge.

RESULTS

400 voluntary subjects were divided into following two groups on age (Mean age was 22.65 Years) and gender basis as shown under: The awareness level among these 3 categories was assessed by Questionnaire and the results showed that 294(73.5%) subjects having good knowledge of thalassemia, 92(23.0%) having an average knowledge about thalassemia however just 14(3.5%) have poor knowledge regarding thalassemia. The detail of the results is as under.



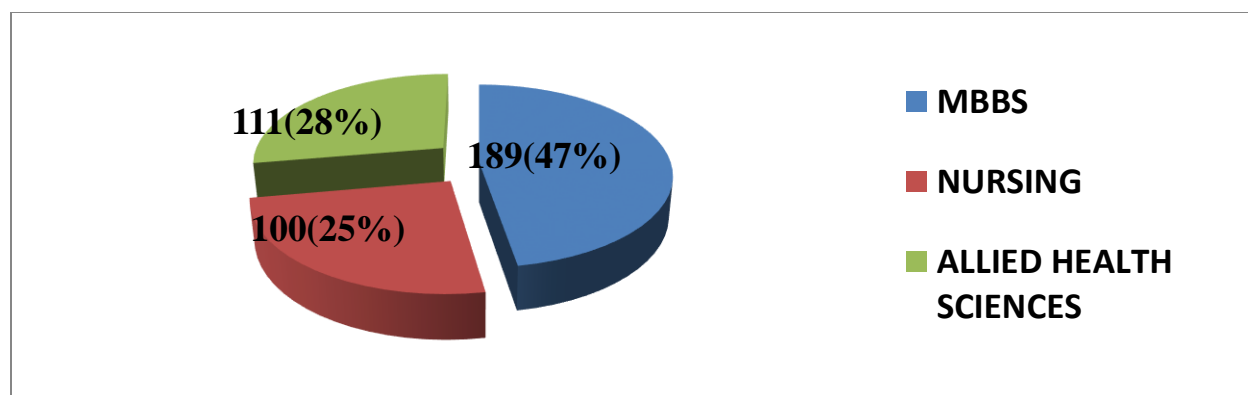


Figure 3: Categories of Subjects

Table 1: Response of questions regarding thalassemia awareness

Sr. No.	Questions	(Correct answer)	(either not Knowing or Incorrect answer)
1	Ever heard about thalassemia?	n=395(98.75%)	n=5(1.25%)
2	From where do you heard about thalassemia?	News Paper n=31(7.75%) Television n=28(7%) Lecture n=336(84%)	n=5(1.25%)
3	Do you know, you have thalassemia minor gene?	Yes n= 13 (3.25%) No n=321 (80.25%)	n=66 (16.5%)
4	Can be the child became thalassemic if both the parents' are thalassemia minor?	Yes n=366(91.5%) No n= 9 (2.25%)	n=25(6.25)
5	What can be the chance of consuming thalassemia child if both the parents are thalassemia minor?	Yes (25% Probability) N-218(55%)	50% Probability N-100(25%) 75%Probability n-56(14%) 100% Probability N-25(6.25%)
6	Can be a child thalassemic if only single parent having thalassemia?	No n=43(10.75%)	Yes n=326(82%) Do Not know n=31(7.8%)
7	Can thalassemia spread by food?	No n=326(91%)	Yes n=13 (3.25%) Do Not Know n=25 (6.25%)
8	For survival transfusion is the only approach?	n=358(90%)	n=13(3.25%) Do Not know n=29(7.25%)
9	It is possible to detect thalassemia in the duration of pregnancy?	n=322(80.5%)	n=22(5.5%) n=56(14%)
10	To escapea thalassemia major teenagers there any precaution available?	n=312(78%)	n=48(12%) n=40(10%)
11	Should a screening test essential for the couple before getting marriage to detect the thalassemia minor?	n=357(89.25%)	n=13(3.25%) 30(8%)
12	Is there any permanent solution for thalassemia?	n=312(78%)	n=54(14%) n=34((%)
13	If yes then what will be the permanent solution?	Bone marrow transplant n=201(50.25%) Gene therapy n=83(20.75%)	Repeated Blood transfusion n=92(23.75%) Do not know n=21(5.25%)

Table 2: Awareness level among the M.B.B.S, Nursing and Allied Health Sciences students

Serial No.	Category	No. of Students	Good Knowledge	Average Knowledge	Poor Knowledge
01	M.B.B.S	189	141(74.6%)	40(21.16%)	08(4.23%)
02	Allied Health Sciences	111	66(59.45%)	43(38.73%)	02(1.80%)
03	Nursing	100	87(87%)	09(9%)	04(4%)
Grand Total		400	294 (73.5%)	92(23%)	14(3.5%)

Table.3 Comparison of results of national studies.

Name of Author	Area	Awareness level (Good and Average Knowledge)	Study Subjects
Existing study	Rahim Yar Khan	(96.5%)	Medical + Nursing + Allied Health Sciences Students
Daniyal Ahmad ²¹	Islamabad	(93%)	Medical students+ Non-Medical Students
Safila Naveed ²⁴	Karachi	(22%)	Medical students + Pharmacy
Arsalan Mirza ²⁶	Karachi	(54.5%)	Non-Medical university students
Muhammad Yousaf ²⁵	Peshawar	(3.1%)	Management students

Table.4 Comparison of results of International studies.

Name of Author	Area	Awareness level (Good and Average Knowledge)	Study Subjects
Existing study	Rahim Yar Khan (Pakistan)	(96.5%)	Medical+ Nursing + Allied Health Sciences Students
Julius Broto Dewanto ²³	Indonesia	(90%)	Medical students
ATM Emdadul Haque ²²	Malaysia	(89%)	Medical + Pharmacy + Nursing Students
Syed Arman Rabbani ²⁸	UAE	(81%)	Medical + Pharmacy + Nursing Students
Pujani et al ²⁰	India	(75.2%)	Medical Students
Vasudeva Murthy CR ²⁷	Malaysia	(61%)	Medical Students

The figure 1 and 2 shows the age and gender distribution, while the figure 3 the academic levels, the table 1 contains Q about thalassemia, while table 2 shows the

awareness about knowledge. The table 3 and 4 describes the national and international data about the awareness of thalassemia.

DISCUSSION

In current study, out of 400 subjects, 189 (47.2%) were MBBS students, 100 (25%) were Nursing students and Allied health

students were 111 (27.4%) while the overall results showed good knowledge in 73.5%, average knowledge in 23% and poor knowledge in 3.5%.

In current study two third of participants were females. Researches carried by Behera et al. and Al-Hajeri¹⁹ et al showed that females have better knowledge of thalassemia than males. This may be one of the reasons of this high result of good knowledge about thalassemia in our study as compared to other studies.

In current study 87% students were above 20 years of age; with mean age (22.65), 13% students were less than 20 years of age. There was no difference in the knowledge of these two age groups. Punjani et al.²⁰ studied that age has no effect on the knowledge of the students about thalassemia. In her study the mean age was below 20 years (19.85 years) and 75.25% students of 1st and 2nd year medical students had good knowledge which is comparable to our study, the age factor and class difference has no major difference in knowledge as our study was on 4th year students.

In our study 294(73.5%) subjects having good knowledge of thalassemia, 92(23.0%) having an average knowledge. Sufficient awareness level (Good Knowledge + Average Knowledge) in our study is 96.5% which is comparable to some national researches carried by Ahmad et al²¹, and international researches carried by Emdadul Haque et al.²² and Dewanto et al.²³ whereas some researches carried by Naveed et al.²⁴,

Yousaf et al.²⁵ and Mirza et al.²⁶ showed significant difference in knowledge as shown in table 2. Later 2 studies were done on non-medical students due to this reason they have poor knowledge regarding the thalassemia. Whereas in the study of Naveed et al there is limited data and information regarding the questionnaire. Questionnaire may be too much difficult, due to which even medical and pharm-D students may have shown good knowledge only in 22%. As far as international data is concerned our study is comparable to most of these studies as shown in table 4.

CONCLUSION

In the future health care providers there is enough knowledge regarding thalassemia hence they can tackle this preposterous entity with full heart and they will show a broadminded and positive part in stoppage of thalassemia and will help to make a thalassemia free Pakistan.

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Conflict of interest: There is no conflict of interest.

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AUTHOR CONTRIBUTIONS

Saleem M:	Main idea & research design
Ghafoor B:	Supervised the study and did critical review
Memon FA:	Data analysis, writing of manuscript & did final review
Mehmood Z:	Helped in Data collection
Khalid S:	Helped in Data collection
Iqbal R:	Helped in writing of manuscript

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