JSRMBS Journal of Scientific Research in Medical and Biological Sciences
ISSN 2709-0159(print) and ISSN 2709-1511 (online)
Volume 5, Issue 2 Article 1
DOI: https://doi.org/10.47631/jsrmbs.v5i2.751

A QUESTIONNAIRE STUDY TO COMPARE THE ROLE OF NURSING AND MEDICAL LABORATORY STAFF IN PROMOTING AWARENESS ABOUT THALASSEMIA

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ARTICLE INFO

Recieved: 16 March 2024
Revised: 10 April 2024
Accepted: 13 May 2024

Keywords:
Thalassemia, nurses staff, medical laboratory staff

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ABSTRACT

Introduction*: One of the most common genetically transmitted blood disorders is thalassemia. Hematology is a matter of great concern, warranting global awareness and understanding among healthcare professionals. We aim to highlight the roles of nursing and medical laboratory employees in the task of spreading information about thalassemia through this research, which has taken a self-reporting survey.* ***Methods****: More of the nursing staff and also the medical laboratory staff were interviewed to evaluate their knowledge about thalassemia, their perception of their role in thalassemia care, and their level of involvement with education activities on the issue. Data analysis, for example, correlation and hypothesis testing, has been done in this study to look for group differences.* ***Results****: The results demonstrated that thalassemia knowledge levels and the roles of nursing and lab staff were very varied among themselves. Medical laboratory staff had greater knowledge of thalassemia, and there were staff nurses who considered their job in caring for thalassemia more positively.* ***Conclusions:*** *Increased education and increased educational seminars on thalassemia would help to increase thalassemia awareness and provide better patient care services. The results of this study can be used to increase the training of medical care personnel to provide comprehensive medical care for thalassemia patients.*

INTRODUCTION

Thalassemia is one of the worldwide genetic hemoglobinopathies caused by a defect in the genes responsible for hemoglobin synthesis Hemoglobin (Hb) is a protein in red blood cells, which involves four subunits and each unit consists of heme and globin chains. Thalassemia is a life-threatening blood disorder that can be fatal if it is not treated properly. Thalassemia is common among those of Mediterranean descent, such as Greeks, and Italians, and among those from Africa, Southeast Asia, Iran, and the Arabian Peninsula(1).

Thalassemia is a recessively autosomal inherited condition demonstrating either decreased or absence of synthesis of one of the two polypeptide chain fractions (α or β) that form the normal adult human hemoglobin molecule. Beta-thalassemia is more common in people of all origins, notably those from the Mediterranean and Arabian Peninsula(2). Its clinical severity varies from Thalassemia major, intermedia, and minor, with the description of the various forms based on the severity of the condition rather than the underlying genetic abnormality. β-thalassemia major

presents in infancy and requires life-long transfusion therapy and bone marrow transplantation for successful control of the disease. Anemia in beta-thalassemia, which results in excess iron and damages the heart, liver, and bones, can only be treated by several blood transfusions. Thalassemia is characterized by genetic hemoglobin synthesis abnormalities in which the production of one or more hemoglobin is reduced or missing or more globin chains, which might result in aberrant hemoglobin synthesis molecules and, as a result, induce anemia, a defining sign of thalassemia. Thalassemia has an autosomal recessive pattern of inheritance and transmission from fathers to sons(3,4).

Chronic hemolytic anemia is the outcome of thalassemia, a heterogeneous set of genetic illnesses defined by aberrant hemoglobin production. There must be comprehensive care for thalassemia, as it requires multiple medical specialties. The nursing staff can provide complete medical care for thalassemia through their comprehensive experience in medical care for thalassemia patients(5).

The role of nursing staff is important in providing moral and psychological support to thalassemia patients and is completed by holding scientific and educational seminars for patients about thalassemia. The number of scientific research on the role and importance of the field of nursing for thalassemia patients is relatively small compared to other groups working in the field of medical care. Future research should focus on the role of nurses in providing the best medical and therapeutic care for thalassemia patients, as well as increasing general knowledge about thalassemia in terms of its causes, types, and methods of diagnosis and treatment(6,7).

Medical laboratory staff play an important role in caring for thalassemia patients by contributing to diagnosing and monitoring the development of the disease and providing an integrated vision of the patient's condition to ensure effective treatment for thalassemia patients. Conducting comprehensive tests, including blood count (CBC), hemoglobin electrophoresis, genetic tests, as well as ferritin tests, contributes to accurate and early diagnosis and monitoring of thalassemia patients, as laboratory diagnosis contributes to distinguishing between types of thalassemia and monitoring the severity of the disease(8).

The medical lab technicians are also key personnel when it comes to following the treatment process in patients with thalassemia by determining different indices related to transfusion, iron status, and hemogram. Doctors can achieve the ultimate goal of preserving the quality of life and better long-term results by making adjustments in the transfusion protocols, varying chelation therapy regimens, and screening for hemoglobin on the course of iron overload with ferritin monitoring and transfusion indices. Laboratory medical technicians do a lot to ensure the work and safety of blood transfusion therapy, which is the main treatment for thalassemia, and in addition to that, they are there to carry out diagnoses and monitoring functions. Laboratory staff strictly follow processes and protocols regarding blood work, red cell count, packaging, transport, and giving of blood products. The transition to local blood donations limits the occurrence of complications associated with their use, thus assuring patient safety(9,10).

METHODOLOGY

Study setting

The current study employed a cross-sectional descriptive design to investigate a cohort of nursing and medical laboratory professionals at Al-Suwaira General Hospital, Al-Zahraa Teaching Hospital, and Al-Karama Teaching Hospital/Wasit Health Department in Wasit Governorate. The questionnaire strategy utilized a non-probability approach, specifically, wherein all nursing and medical laboratory staff who voluntarily consented to participate were included in this questionnaire study.

Study individuals

The study sample included 150 nursing and medical laboratory staff. A researcher used a direct interview sheet to gather the data over three months, from December 2023 to February 2024, from each nursing and medical laboratory staff participant.

Questionnaire

A structured questionnaire was employed to evaluate the understanding and role of laboratory and nursing staff in medical and therapeutic care regarding their role in preventing thalassemia. The questionnaire was structured into three main sections:

First part: centered on collecting demographic information, such as age, gender, and level of education. Second part: comprised 12 questions designed to evaluate the knowledge of medical laboratory and nursing staff regarding the prevention of thalassemia. Third part: This aspect of the questionnaire focused on evaluating the contribution of nursing and medical laboratory personnel to thalassemia prevention.

Research ethics

Verbal consent was taken from each member of the nursing and medical laboratory staff before conducting the questionnaire, and it was confirmed in the questionnaire that they had complete freedom not to participate at any time they wished. This method ensured respect for the rights of participants through adherence to ethical and professional standards.

Statistical Analysis

Through the use of the Statistical Package for the Social Sciences (SPSS), a thorough data verification procedure was carried out before analysis. Qualitative data was presented using descriptive statistics, such as percentage distribution and frequency. If the numerical variables were regularly distributed, the T-test and Mann-Whitney U test were used to assess the mean difference between the two groups. The Spearman correlation coefficient (r) value was used to determine the connection's strength and direction; a significant association indicated the correlation's direction. To create tables and figures, Microsoft Excel 2019 was used.

RESULTS AND DISCUSSION

Classification of study groups

Classification of study groups into two groups:
G1: - Eighty people from the medical laboratory staff.
G2**:** - Seventy people from the nursing staff.

Comparison between G1 and G2 by demographic characteristics

As indicated in Table (1), the (mean ± SD) variances of age in the G1 group were (30.18 ± 4.92) range (21 - 39 Years), and in the G2 group was (30.0 ± 5.24) range (21 - 39 Years) which are statistically non-significant(P>0.05). The variance for Sex among the G1 consisted of 29 males (36.3 %) and 51 females (63.7 %), while the G2 consisted of 25 males (35.7%) and 45 females (64.3%) which is statistically non-significant (P > 0.05).

Table 1: shows the comparison between G1 and G2 by demographic characteristics

Demographic characteristics	*G1 No. 80 (Mean ±SD)*	*G2 No. 70 (Mean ±SD)*	*P.Value*
Age (years)			
Mean ±SD	30.18 ± 4.92	30.0 ± 5.24	0.833 I NS
Range	21 - 39 Years	21 - 39 Years	
Sex			
Male	29 (36.3 %)	25 (35.7 %)	0.946 C NS
Female	51 (63.7 %)	45 (64.3 %)	

SD: standard deviation; I: independent samples t-test; C: chi-square test; NS: not significant

Comparison between G1 and G2 according to questionnaire study topics

As indicated in Table (2), the study topic "General knowledge of Thalassemia" was significantly higher in the G1 in comparison with the G2 ($p < 0.001$). The study topic " The role of laboratory and nursing staff in medical and therapeutic care " was significantly higher in the G2 in comparison with the G1 ($p < 0.001$).

Table 2: shows the comparison between G1 and G2 according to the questionnaire study topics

Study topics	*G1 No. 80 Median (IQR)*	*G2 No. 70 Median (IQR)*	*P-value*
General knowledge of Thalassemia	2.04 ± 0.25	1.41 ± 0.27	P = 0. 001 U **
The role of laboratory and nursing staff in medical and therapeutic care	1.37 ± 0.23	2.00 ± 0.29	P = 0. 001 U **

IQR: inter-quartile range; **: High significant at $p \leq 0.01$; U: Mann Whitney U test

Distribution of the study sample in G1 and G2 according to the educational level

As indicated in Table (3), the distribution of educational level in G1 was diploma =32(40%), Bachelor =26 (32.5%), and Postgraduate studies= 22 (27.5%) as shown in Figure 1.1. The distribution of educational level in G2 was diploma =33(47.1%), Bachelor =20 (28.6%), and Postgraduate studies= 17 (24.3%), as shown in Figure 1.2

Table 3: shows the distribution of the study sample in G1 and G2 according to the educational level

Educational level	*G1*		*G2*	
	F	*%*	*F*	*%*
Diploma	*32*	*40%*	*33*	*47.1%*
Bachelor	*26*	*32.5%*	*20*	*28.6%*
Postgraduate studies	*22*	*27.5%*	*17*	*24.3%*
Total	*80*	*100%*	*70*	*100%*

F: Frequency; %: Percentage.

Figure 1: -Pie chart shows the distribution of educational level in G1

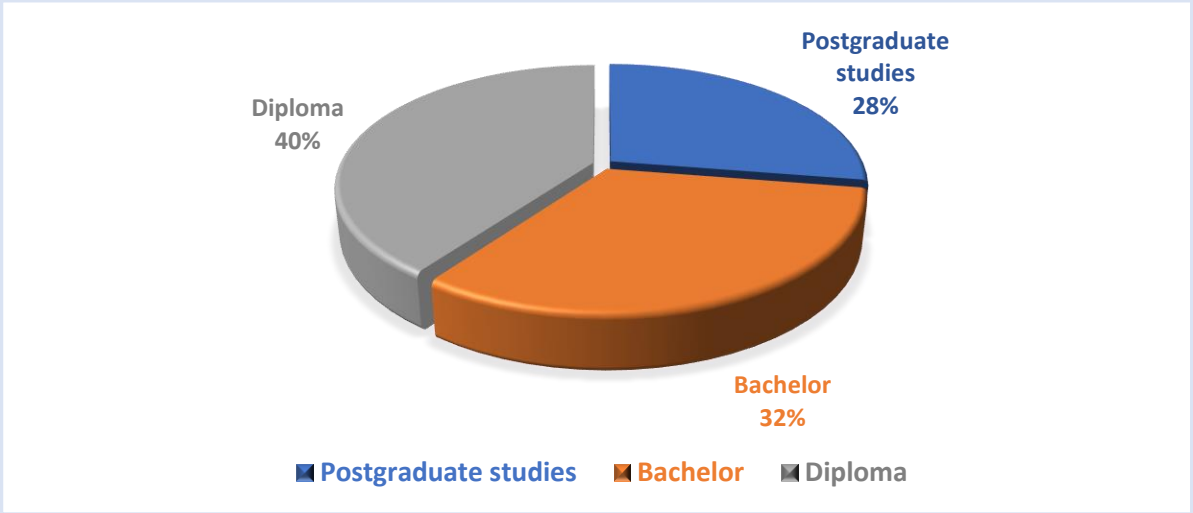
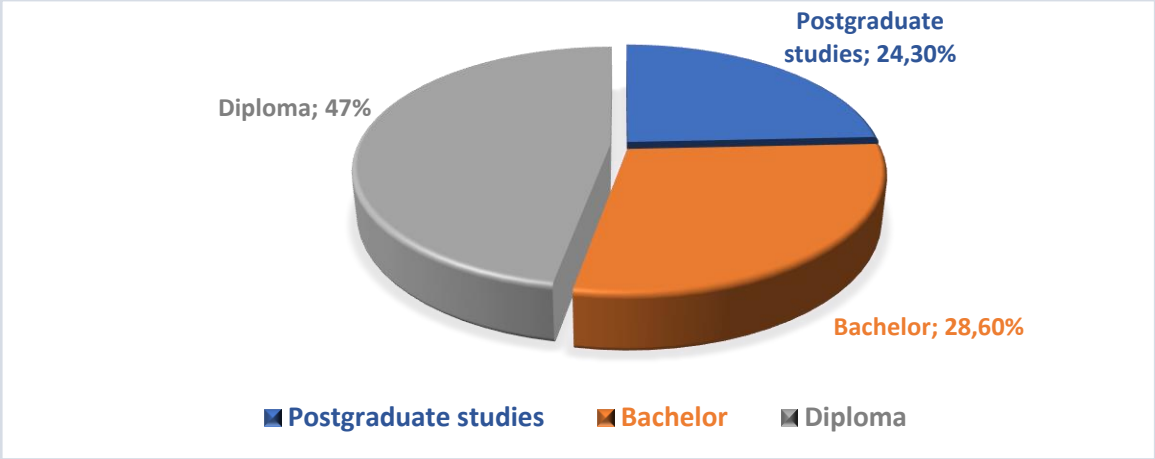


Figure 2: Pie chart shows the distribution of educational level in G2



The reliability of the study measures

Table 4: Testing the reliability of the study measures using the Alpha Cronbach test

Study topics	*No.*	*α*
General knowledge of Thalassemia	*12*	*0.76*
The role of laboratory and nursing staff in medical and therapeutic care	*10*	*0.73*

No: Number of questions; α: Alpha Cronbach

In Table (4), the alpha Cronbach for "general knowledge of thalassemia" and "the role of laboratory and nursing staff in medical and therapeutic care" is calculated to be 0.76 and 0.73, respectively. Indicating good internal consistency and reliability for these measures.

Distribution of the study sample according to "general knowledge of Thalassemia" in G1 and G2

As shown in Table (5) and Table (6), which included the general knowledge of Thalassemia in G1 and G2, the answers were distributed as follows: yes, no, or I don't know. They were distributed based on frequencies and percentages.

Table 5: Shows the distribution of "general knowledge of Thalassemia" in G1

No.	*Question*	*Answers*					
		Yes		*No*		*I don't know*	
		F	*%*	*F*	*%*	*F*	*%*
1	*What is your knowledge of thalassemia?*	77	96.3%	1	1.3%	2	2.5%
2	*Did you know that thalassemia is a hereditary disorder?*	74	92.5%	4	5%	2	2.5%
3	*Do you know that thalassemia affects the composition of hemoglobin in the blood?*	68	85%	7	8.8%	5	6.3%
4	*Did you know that thalassemia is transmitted by genetics?*	64	80%	10	12.5%	6	7.5%
5	*Did you know that thalassemia symptoms may include fatigue, breathless, and confusion?*	44	29.3%	28	18.7%	8	5.3%
6	*Did you know that thalassemia can be diagnosed through blood tests?*	54	67.5%	16	20%	10	12.5%
7	*Did you know that there are different types of thalassemia such as Alpha-thalassemia and beta-thalassemia?*	60	75%	8	10%	12	15%
8	*Did you know that thalassemia can lead to problems with the muscles, bones, and heart?*	41	51.2%	20	25%	19	23.8%
9	*Did you know that thalassemia can affect children's growth and development?*	75	93.8%	5	6.2%	0	0
10	*Did you know that thalassemia is one of the most common diseases in some regions that carry genetic imbalances, such as the Mediterranean regions, South Asia, and Africa?*	29	36.3%	30	37.5%	21	26.3%
11	*Did you know that individuals who carry the mixed thalassemia gene may be carriers of the disease without showing any symptoms?*	46	57.5%	15	18.8%	19	23.8%
12	*Did you know that children born to a parent with the thalassemia gene are 50% carriers of the gene?*	65	81.3%	3	3.7%	12	15%

F: Frequency; %: Percentage

Table 6: Shows the distribution of "general knowledge of Thalassemia" in G2

No.	*Question*	*Answers*					
		Yes		*No*		*I don't know*	
		F	*%*	*F*	*%*	*F*	*%*
1	*What is your knowledge of thalassemia?*	41	58.6%	16	22.9%	13	18.6%
2	*Did you know that thalassemia is a hereditary disorder?*	18	25.7%	34	48.6%	18	25.7%
3	*Do you know that thalassemia affects the composition of hemoglobin in the blood?*	13	18.6%	34	48.6%	23	32.9%
4	*Did you know that thalassemia is transmitted by genetics?*	21	30%	31	44.3%	18	25.7%
5	*Did you know that thalassemia symptoms may include fatigue, breathless, and confusion?*	10	14.3%	35	50%	25	35.7%
6	*Did you know that thalassemia can be diagnosed through blood tests?*	24	34.3%	30	42.9%	16	22.9%
7	*Did you know that there are different types of thalassemia such as Alpha-thalassemia and beta-thalassemia?*	21	30%	29	41.4%	20	28.6%

8	*Did you know that thalassemia can lead to problems with the muscles, bones, and heart?*	9	12.9%	39	55.7%	22	31.4%
9	*Did you know that thalassemia can affect children's growth and development?*	50	71.4%	9	12.9%	11	15.7%
10	*Did you know that thalassemia is one of the most common diseases in some regions that carry genetic imbalances, such as the Mediterranean regions, South Asia, and Africa?*	5	7.1%	47	67.1%	18	25.7%
11	*Did you know that individuals who carry the mixed thalassemia gene may be carriers of the disease without showing any symptoms?*	2	2.9%	31	44.3%	37	52.9%
12	*Did you know that children born to a parent with the thalassemia gene are 50% carriers of the gene?*	14	20%	25	35.7%	31	44.3%

F: Frequency; %: Percentage

Distribution of the study sample according to " The role of laboratory and nursing staff in medical and therapeutic care " in G1 and G2

As shown in Table (7) and Table (8), which included The role of laboratory and nursing staff in medical and therapeutic care in G1 and G2, the answers were distributed as follows: yes, no, or I don't know. They were distributed based on frequencies and percentages.

Table 7: Shows the distribution of " The role of laboratory and nursing staff in medical and therapeutic care " in G1

No.	***Question***	***Answers***					
		Yes		***No***		***I don't know***	
		F	***%***	***F***	***%***	***F***	***%***
1	*Do you think that the treatments currently available for thalassemia are sufficient to meet the needs of all patients?*	28	35%	38	47.5%	14	17.5%
2	*Are you involved in delivering innovative therapies and clinical trials for thalassemia patients?*	15	18.8%	50	62.4%	15	18.8%
3	*Do you provide safe blood transfusion and marrow transplantation services to patients suffering from thalassemia regularly?*	17	21.3%	46	57.4%	17	21.3%
4	*Do you regularly monitor patients' responses to treatments?*	13	16.2%	40	50%	27	33.8%
5	*Do you think there is a need to improve accessibility to treatments available for thalassemia patients?*	20	25%	30	37.5%	30	37.5%
6	*Do you believe there is a need to provide more training and education on the use of modern treatments for thalassemia?*	53	66.2%	15	18.8%	12	15.0%
7	*Do you think there is a need to strengthen medical research and development to develop new treatments for thalassemia?*	58	72.4%	7	8.8%	15	18.8%
8	*Did you know that treatment for thalassemia may include hemoglobin level tests, iron therapy, and blood transfusion?*	9	11.2%	55	68.8%	16	20%
9	*Are you involved in providing guidance to patients and their families about the treatment options available to them?*	13	16.3%	42	52.4%	25	31.3%

10	*Do you provide psychological and social support to patients and their families during treatment?*	8	10%	47	58.8%	25	31.2%

F: Frequency; %: Percentage

Table 8: Shows the distribution of " The role of laboratory and nursing staff in medical and therapeutic care " in G2

No.	***Question***	***Answers***					
		Yes		***No***		***I don't know***	
		F	***%***	***F***	***%***	***F***	***%***
1	*Do you think that the treatments currently available for thalassemia are sufficient to meet the needs of all patients?*	66	94.2%	2	2.9%	2	2.9%
2	*Are you involved in delivering innovative therapies and clinical trials for thalassemia patients?*	59	84.2	9	12.9	2	2.9
3	*Do you provide safe blood transfusion and marrow transplantation services to patients suffering from thalassemia regularly?*	63	90%	6	8.6%	1	1.4%
4	*Do you regularly monitor patients' responses to treatments?*	52	74.3%	15	21.4%	3	4.3%
5	*Do you think there is a need to improve accessibility to treatments available for thalassemia patients?*	47	67.1%	14	20%	9	12.9%
6	*Do you believe there is a need to provide more training and education on the use of modern treatments for thalassemia?*	56	80%	6	8.6%	8	11.4%
7	*Do you think there is a need to strengthen medical research and development to develop new treatments for thalassemia?*	65	92.9%	1	1.4%	4	5.7%
8	*Did you know that treatment for thalassemia may include hemoglobin level tests, iron therapy, and blood transfusion?*	28	40%	29	41.4%	13	18.6%
9	*Are you involved in providing guidance to patients and their families about the treatment options available to them?*	36	51.4%	22	31.4%	12	17.2%
10	*Do you provide psychological and social support to patients and their families during treatment?*	60	85.7%	6	8.6%	4	5.7%

F: Frequency; %: Percentage

Correlation between General knowledge of Thalassemia and the role of laboratory and nursing staff in medical and therapeutic care with answers of study participants in G1 and G2

As shown in Table (9): In G1, the results of the correlation showed a highly significant positive correlation between general knowledge of Thalassemia with Questions 3,4,5,6,7,8,10,11 and 12. while there is a significant positive correlation between general knowledge of Thalassemia with Questions 1,2 and 9. In G2, the results of the correlation showed a highly significant positive correlation between general knowledge of Thalassemia with Question 1. There is a significant positive correlation between general knowledge of Thalassemia with Questions 2,7 and 10. and the results have shown a non-significant positive correlation between general knowledge of Thalassemia with Questions 3,4,5,6,8,9,11, and 12.

Table 9: Shows the correlation between general knowledge of Thalassemia and the answers of study participants in G1 and G2

Question	*G1*		*G2*	
	r	*P*	*r*	*P*
Q1	0.482	0.011*	0.637	<0.01**
Q2	0.433	0.032*	0.212	0.042*
Q3	0.504	<0.01**	0.209	0.053 NS
Q4	0.611	<0.01**	0.136	0.252 NS
Q5	0.855	<0.01**	0.098	0.634 NS
Q6	0.709	<0.01**	0.264	0.402 NS
Q7	0.812	<0.01**	0.267	0.039*
Q8	0.832	<0.01**	0.052	0.431 NS
Q9	0.340	0.032*	0.230	0.056 NS
Q10	0.683	<0.01**	0.336	0.046*
Q11	0.725	<0.01**	0.422	0.110 NS
Q12	0.811	<0.01**	0.122	0.297 NS

r: correlation coefficient using Spearman correlation; NS: not significant; **: High significant at $p \leq 0.01$; *: significant at $p \leq 0.05$; Q: Question.

As shown in Table (10):

In G1, the results of the correlation showed a highly significant positive correlation between the role of laboratory and nursing staff in medical and therapeutic care with Questions 3 and 6. while there is a significant positive correlation between the role of laboratory and nursing staff in medical and therapeutic care with Questions 1,8,9 and 10. and the results have shown a non-significant positive correlation between the role of laboratory and nursing staff in medical and therapeutic care with Questions 2,4,5, and 7. In G2, the results of the correlation showed a highly significant positive correlation between the role of laboratory and nursing staff in medical and therapeutic care with Questions 1,3,4,5,7,8,9, and 10. There is a significant positive correlation between the role of laboratory and nursing staff in medical and therapeutic care with Question 6. and the results have shown a non-significant positive correlation between the role of laboratory and nursing staff in medical and therapeutic care with Question 2.

Table 10: Shows the correlation between the role of laboratory and nursing staff in medical and therapeutic care and the answers of study participants in G1 and G2

Questions	*G1*		*G2*	
	r	*P*	*r*	*P*
Q1	0.456	0.031*	0.780	< 0.01**
Q2	0.351	0.072 NS	0.071	0.553 NS
Q3	0.611	< 0.01 **	0.611	< 0.01**
Q4	0.308	0.321 NS	0.564	< 0.01**
Q5	0.350	0.082 NS	0.563	< 0.01**
Q6	0.425	0.001**	0.335	0.032*
Q7	0.016	0.890 NS	0.611	< 0.01**
Q8	0.265	0.036*	0.543	< 0.01**
Q9	0.362	0.042*	0.659	<0.01**
Q10	0.473	0.014*	0.822	<0.01**

r: correlation coefficient using Spearman correlation; NS: not significant; **: High significant at $p \leq 0.01$; *: significant at $p \leq 0.05$; Q: Question.

Discussion

At P > 0.05, the mean-variance of ages and sex between G1 and G2 is not significant. This matching is essential to eliminate any differences in the outcomes that may arise from variations in age and sex.

In this questionnaire study, the median score for general knowledge of thalassemia was notably higher in Group 1 compared to Group 2, with a statistically significant difference of P = <0.01. (Alwi & Syed-Hassan, 2022) explained in a scientific study that nursing staff are less knowledgeable about thalassemia than those working in medical laboratories, and this agrees with this study, as the results of this study showed a greater level of knowledge for workers in medical laboratories(11). This study also showed that nursing workers have a better role than workers in medical laboratories in terms of providing treatment and medical care to thalassemia patients. As demonstrated by Hoegy et al. (2022) the role of nursing is important in terms of providing treatment, monitoring the condition of patients, and providing psychological and moral support to them. The results also showed that the limited role of workers in medical laboratories is due to their high role in diagnosing the disease and they may not be in direct contact with patients. This study agrees with the above study(12).

The presence of multiple educational levels in this study is important to include the largest number of educational groups. Tabbasum et al., 2023 showed in a previous study that those studying for a vocational or technical diploma had undergone intensive scientific programs during their studies, which produced a scientific basis. According to the study above, this study agrees with it, as the largest percentage of holders of a professional diploma were based on a scientific basis Ghanim et al., 2023 In a previous study, they highlighted the importance of including groups a high level of education in the questionnaire study, which aims to add better scientific value, and what was mentioned above agrees with this study, as several holders of bachelor's, master's, and doctoral degrees were involved(13).

The results of this study showed that workers in medical laboratories have a higher and better awareness than workers in the field of nursing, as the majority answered that there is a hereditary factor for the transmission of thalassemia from parents to children and their understanding of the medical physiology of its spread. Likewise, most participants answered that there are symptoms such as severe inflammation and shortness of breath. The participants in the questionnaire study also showed high knowledge of the methods of diagnosing thalassemia, as well as knowledge of the types of thalassemia and the impact of this disease on the growth and development of patients. The above is consistent with this study(14). The results of this study indicated that the knowledge levels of nursing staff are lower than those in medical laboratories. Participants in the field of nursing showed diversity in their answers about the role of the genetic factor in the spread of thalassemia and its effect on hemoglobin formation. A smaller number also answered with their knowledge about some of the symptoms of thalassemia, such as extreme fatigue and shortness of breath. Also, a large number of participants in the field of nursing demonstrated their lack of knowledge of the methods of diagnosing thalassemia, but the participants in this questionnaire acknowledged the impact of thalassemia on growth and development. This study is consistent with a previous study showing that awareness levels for workers in the field of nursing must be increased(15).

In this study, workers in medical laboratories were surveyed about their role in providing medical and therapeutic care to thalassemia patients. Participants showed various answers about providing adequate treatment for patients, as well as a lack of participation from workers in medical laboratories in providing treatment for patients and clinical trials, and also limited participation in blood transfusions for patients. The majority also responded that there is an urgent need to provide treatment and hold scientific educational seminars about thalassemia. What was mentioned above is consistent with a previous study that showed the limited role of medical laboratory workers in providing treatments and clinical medical care for thalassemia patients(16,17).

The correlation analysis between the roles of laboratory and nursing staff in medical and therapeutic care and the general knowledge of thalassemia among participants in G1 and G2 yielded notable results. In G1, comprising medical laboratory staff, a strong positive correlation was found between thalassemia knowledge and most questionnaire items, with significant correlations observed across multiple questions. Conversely, in G2, consisting of nursing staff, a highly significant positive correlation was evident only for Question 1, indicating robust thalassemia awareness among nurses. While significant correlations were noted for specific questions in G2, others showed non-significant correlations. Overall, these findings suggest that medical laboratory staff tend to exhibit a more cohesive relationship between their overall thalassemia knowledge and specific aspects of the condition compared to nursing staff. Nevertheless, both groups demonstrate a meaningful association between certain knowledge domains and their respective roles in thalassemia patient care and therapy. The correlation analysis revealed distinct patterns between the roles of laboratory and nursing staff in medical and therapeutic care for thalassemia patients among study participants in G1 and G2. In G1, comprising medical laboratory staff, significant positive correlations were found with aspects such as providing safe transfusion services, offering education on modern treatments, treatment adequacy, knowledge of treatment components, patient guidance, and psychological support. However, non-significant correlations were noted with involvement in innovative therapies, monitoring patient responses, improving treatment accessibility, and strengthening research. In G2, consisting of nursing staff, highly significant positive correlations were observed with most questionnaire items, indicating comprehensive involvement in thalassemia care. Notably, significant correlations were found with training and education on modern treatments, while a non-significant correlation was noted with involvement in innovative therapies. These findings underscore the importance of interdisciplinary collaboration and targeted training to optimize thalassemia patient care outcomes.

CONCLUSION

The questionnaire study investigated the knowledge and perceptions of thalassemia among medical laboratory and nursing staff, highlighting distinct differences in awareness and roles in thalassemia care. Medical laboratory staff demonstrated a higher level of general knowledge about thalassemia compared to nursing staff, emphasizing the need for targeted education initiatives among laboratory professionals. However, nursing staff perceived their role in medical and therapeutic care more positively, indicating potential disparities in communication and collaboration within healthcare teams. Correlation analysis further revealed varying associations between thalassemia knowledge and specific aspects of patient care among both groups, underscoring the importance of interdisciplinary collaboration to optimize patient outcomes.

Acknowledgment

The authors thank all the participants in this questionnaire from the nursing staff and medical laboratories for their high confidence in the questionnaire and their great role in the success of this questionnaire study.

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