



ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BLOOD DONATION AMONG PARAMEDICAL STUDENTS IN SELECTED NURSING COLLEGE OF BUDGAM

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Abstract

Human blood is an important component of human life, and there are no alternatives to blood components yet. Blood donation is one of the most essential need to manage patients suffering from various medical conditions. There is a great need to create awareness among the population at large and students about blood donation to maintain a regular blood supply. The present study aimed to assess the knowledge of Paramedical Ist year students regarding blood donation. Objectives: assess the pre-test and post-test knowledge regarding blood donation. Materials and methods: Quantitative Pre-experimental one group pre-test post-test design, non-Probability purposive sampling technique was used to select 62 subjects. The data was collected by using self-structured knowledge questionnaire. The result based on the objective showed that change in the post-test knowledge score of subjects was significantly higher than pre-test score. Planned teaching program is proved an effective method to improve knowledge of subjects regarding blood donation. The study also states there was significant association between knowledge score and demographic variable age and no association was found with other selected variables. Conclusion: Hence this study is strongly recommended that development and implementing training and health education programme for students are essential for blood donation also further researches are needed.

Keywords: Blood Donation, Paramedical Students, Knowledge, STP.

1. Introduction

A blood donation is a voluntary procedure in which a person's blood is extracted and utilized for transfusions or converted into biopharmaceutical drugs using a process known as fractionation. Donation might be of whole blood or specific components (apheresis)[1]. Blood donation is harmless and safe for the body. Rather, it is a social

responsibility. The donor is donating for it as, it will be used in saving lives of his fellow beings. He himself may use the same during his own need. According to WHO from 118.5 million blood donations collected globally, 40% of these are collected in high-income countries, home to 16% of the world's population. In low-income nations, up to 54% of blood transfusions are given to children under the age of five; in high-income countries, the most

frequently transfused patient group is over the age of sixty, accounting for up to 76% of total transfusions. According to a sample of 1000 persons, the blood donation rate is 31.5 in high-income countries, 16.4 in upper-middle-income countries, 6.6 in lower-middle-income countries, and 5.0 in low-income countries. Between 2008 and 2018, there was a 10.7 million rise in voluntary unpaid blood donations. 79 countries acquire more than 90% of their blood supply from unpaid volunteers, whereas 54 countries collect more than 50% from family/replacement or paid donors. The amount of plasma for fractionation per 1000 population varied significantly among the 45 reporting countries, ranging from 0.1 to 52.6 liters, with a median of 5.2 liters[2].

Potential donors are screened for anything that could render their blood hazardous to use. The screening includes tests for diseases that can be spread via blood transfusion, such as HIV and viral hepatitis. The donor must also answer questions about their medical history and undergo a brief physical examination to ensure that the donation is not harmful to their health. The frequency with which a donor can donate ranges from days to months, depending on the component donated and the rules of the country in which the gift is made. The volume of blood obtained and the methods used varies. The collection can be done manually or using automated equipment that extracts only specified components of blood. The majority of blood components used in transfusions have a short shelf life, making it difficult to maintain a consistent supply.

2. Need for the Study

Blood is the vital and life saving fluid which can neither be manufactured in factories, nor substituted with blood of any other creature. For those who require for saving their lives, blood donation is only means. The collection can be done manually or using automated equipment that extracts only specified components of blood. The majority of blood components used in transfusions have a short shelf life, making it difficult to maintain a consistent

supply[3]. The blood is needed every minute to replace blood lost because of accident, to treat shock, for minor and major surgeries, for burn victims. Patient suffering from anemia, during childbirth for the mothers, for children suffering from ailments like thalassemia, hemophilia, leukemia & blood cancer. In India 60% of population are eligible to donate blood, yet less than 5% do. Unfortunately, 83% of global population living in developing countries have access to only 40% of blood supplied rather than voluntary non-remunerated low risk donors & this blood in 60% of cases is collected from paid & replace donors[4].

In the State of J & K, the availability of blood is ensured through an excellent network of 23 NACO supported blood banks which include one Model Blood Bank (GMC, Jammu), Three Major blood banks with BCFUs (SKIMS, SMHS, Lalla Ded) and two Regional Blood Banks at (GMC, Jammu & GMC Srinagar) two major Blood Banks (Bone & Joint Hospital Sgr. & SMGS Hospital Jammu) & 17 District level Blood Banks (Gandhi Nagar Hospital Jammu, Kathua, Kishtwar, Rajouri, Ramban, Poonch, Udhampur, Doda, Anantnag, Baramulla, Budgam, JLN Srinagar, Kupwara, Kulgam, Kargil, Leh, & Pulwama)[5].

2.1 Literature Review

1. A non-experimental descriptive research study conducted by Elizabeth Varghese, Schivcharan Singh Gandhar et al. (2019) on Knowledge regarding blood donation among undergraduate students at selected colleges of Pune city. Sampling technique used was non-probability convenient sampling and sample size taken was 300 undergraduate students. Checklist was used to collect data and data was analyzed by using descriptive and inferential statistics and results shows that the mean score of knowledge regarding blood donation among undergraduate students was 7.41 with 2.17 standard deviation that shows average knowledge Findings reveal that majority of students 77% have average

knowledge, 16% had good knowledge and 7% have poor knowledge regarding blood donation[6].

2. A random cross-sectional study conducted by Ashiskhumar Nathabhai kanani, Jitendrah H Vachhani and Shwetab upadhyay et al. (2018) on knowledge regarding blood donation among Government Medical, Para-Medical and nursing undergraduate students in Jamnagar, Gujarat. The sample size taken was 500 undergraduate students. Data were collected after obtaining informed consent and ethical clearances and then data was analyzed using Microsoft excel database sheet and percentage and Chi-square test were calculated. The result was gathered from a total of 500 respondents who voluntarily participated in the study. The study sample consisted of 165 males (33%) and 335 females (67%) [Chart 1]. Out of them, 31.52% (n = 165) males and 14.03% (n = 335) females donated blood in their lifetime. It was observed that, among 500 students, only 99 (19.8%) had donated blood one or more times and 401 (80.2%) had never donated blood. Blood donation was higher among physiotherapy students, i.e., 33% (n = 100), followed by MBBS 28%, nursing 15%, ayurvedic 14%, and dental 9% students[7].
3. A cross-sectional descriptive study conducted by Muhammad Osama Anwar, Shaikh Hamiz-ul-fawwad, Sanam Anwar, Arif Ali (from August 2011 to May 2012) on knowledge and attitude regarding blood donation among Medical and Non-medical students studying in different universities across Karachi. Purposive sampling technique was used to choose 690 students as study sample and divide the sample into two equal groups; medical and non-medical. Data was collected by the use of Epidote software and was then analyzed by using SPSS after that Chi-square and Fisher`s exact test were applied to calculate association between different variables and results shows no major difference observed in gender and age composition of these groups.

In medical group, males were 43.8% (n = 151) and in nonmedical group, males constituted 47.8% (n = 165) of the group. For age, we organized our sample into four different groups; 18–20, 21–23, 24–26, and more than 26 years. In medical group, most cases (64.6%, n = 223) fell in the age range 21–23 years, followed by those who were aged between 18 and 20 years (32.2%, n = 111). Similar results were seen in nonmedical group where most of the students fell in the age group of 21–23 years (66.1%, n = 228) followed by 23.8% (n = 82) cases who were in 18–20 years[8].

3. Objectives

1. To assess the pre-test level of knowledge score regarding blood donation among the paramedical students in IBN SINA collage of nursing and health science Budgam
2. To assess the post-test level of knowledge score regarding blood donation among the paramedical students in IBN SINA collage of nursing and health science Budgam
3. To compare pre-test and post-test level of knowledge score regarding blood donation among the paramedical students in IBN SINA collage of nursing and health science Budgam
4. To associate the pre-test level of knowledge score regarding blood donation among the paramedical students with their selected demographic variables (Age, Gender, Education of father, Education of mother, Socio-economic status of family, Type of residence, Occupation of father, occupation of mother and previous source of information).

4. Research Methodology

- A. **Research Approach:** Quantitative.
- B. **Research Design:** Pre-experimental one group pre-test post-test design.
- C. **Setting:** Ibni Sina college of Nursing and Health sciences.
- D. **Population:** Paramedical students.

E. Sample: (62) First year paramedical students

F. Sampling Technique: Purposive Sampling technique.

G. Tool: Semi Structured Knowledge Questionnaire.

Section I demographic variables (Age, Gender, Education of father, Education of Mother, socio economic status of family, Residence, occupation of father, occupation of mother, previous source of information regarding blood donation).

Section II Self-Structured Knowledge Questionnaire regarding blood donation.

H. Ethical Consideration: The researcher took prior permission from the administrative authorities. The procedure and the purpose of the study was explained in detail to each participant included in

the study and informed consent was obtained.

I. Data Collection Procedure: The principal of Ibn Sina College of Nursing and health science Budgam, granted permission for the collection of the final data. The actual data collection period was from 26th April to 30th April'24. Data was gathered using a self-structured knowledge questionnaire throughout the research. Prior permission was obtained from the subjects. who were being studied. Subjects were made aware of the study's aim prior of participating. Pre-test, a self-structured knowledge questionnaire was completed regarding blood donation. On the same day structured teaching programme was administered to subjects. Post-test was carried out on the fifth day of following pre-test.

5. Findings of the Study

Table 1. Demographic characteristics of the participants (n=62)

Variables	Opts	Percentage	Frequency
Age	18-20 years	80.6%	50
	21-23 years	19.4%	12
	24-26 years	0.0%	0
	Above 26 years	0.0%	0
Gender	Female	64.5%	40
	Male	35.5%	22
Education of father	Illiterate	16.1%	10
	Primary education	29.0%	18
	Secondary education	30.6%	19
	Graduate or above	24.2%	15
Education of mother	Illiterate	41.9%	26
	Primary education	37.1%	23
	Secondary education	12.9%	8
	Graduate or above	8.1%	5
Socio economic status	Good	56.5%	35
	Average	41.9%	26
	Poor	1.6%	1
Type of residence	Rural	71.0%	44
	Urban	29.0%	18
Occupation of father	Govt. employee	37.1%	23
	Employee in private sector	4.8%	3
	Self-employed	37.1%	23
	Other	21.0%	13

Occupation of mother	Govt. employee	4.8%	3
	Employee in private sector	1.6%	1
	Self-employed	3.2%	2
	Home maker	90.3%	56
Previous source of information	Print media (Newspaper, Magazine)	6.5%	4
	Mass media (Internet, TV, Radio)	32.3%	20
	Educational programmers	61.3%	38

5.1 Section I

Table 2: Descriptive statistics of pre-test level of knowledge (n=62)

Descriptive Statistics	Mean	S.D.	Median Score	Maximum	Minimum	Range	Mean%
Pre-test Knowledge	11.60	2.755	11.5	18	4	14	36.20
	Maximum=	32	Minimum=	0			

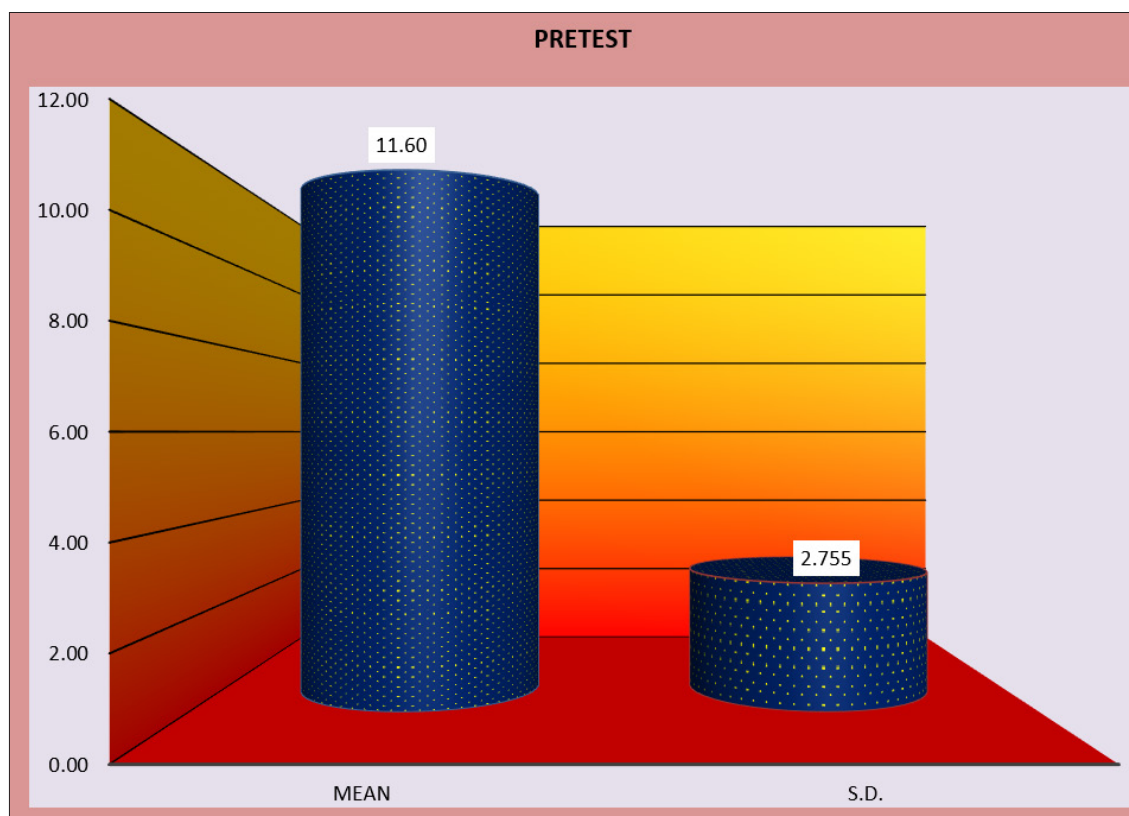


Figure 1: Cylindrical Diagram representing descriptive statistics of pre-test level of knowledge

Table 3: Frequency & Percentage distribution of post-test level of knowledge (n=62)

Criteria measure of Post-test knowledge score	
Score Level (N= 62)	Post-test f (%)
Inadequate Knowledge. (0-11)	0 (0%)
Moderate Knowledge. (12-21)	3 (4.8%)
Adequate Knowledge. (22-32)	59 (95.2%)
Maximum Score=32 Minimum Score=0	

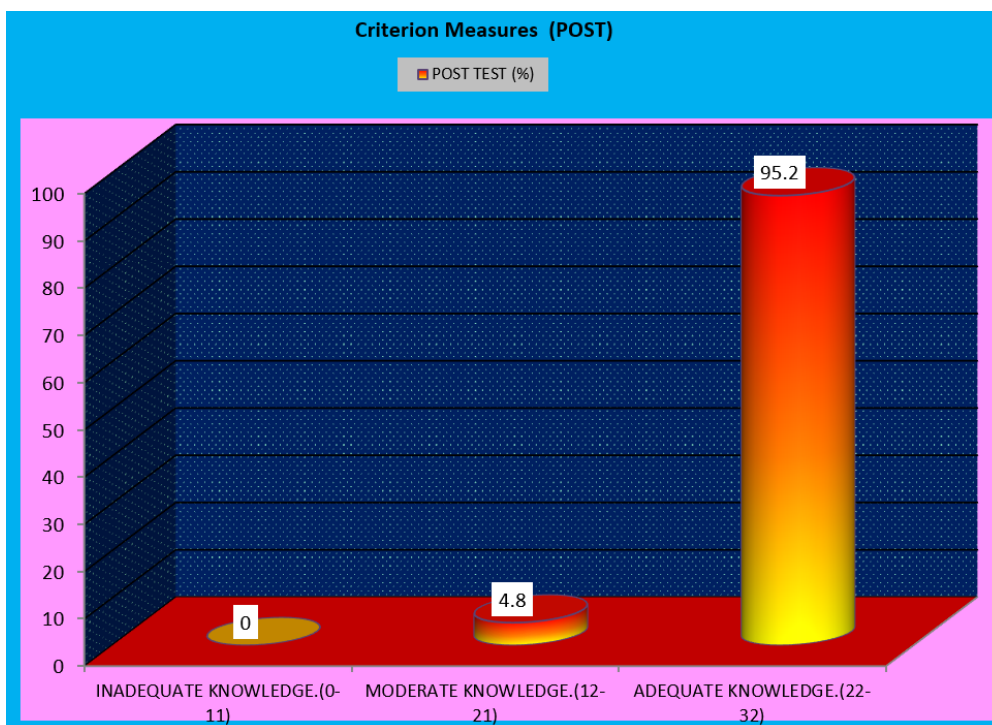


Figure 2: Cylindrical Diagram representing percentage distribution of post-test level of knowledge

Table 4: Descriptive statistics of post-test level of knowledge (n=62)

Descriptive Statistics	Mean	S.D.	Median Score	Maximum	Minimum	Range	Mean%
Post-test Knowledge	25.26	2.268	25	29	18	11	78.90
	Maximum=	32	Minimum=	0			

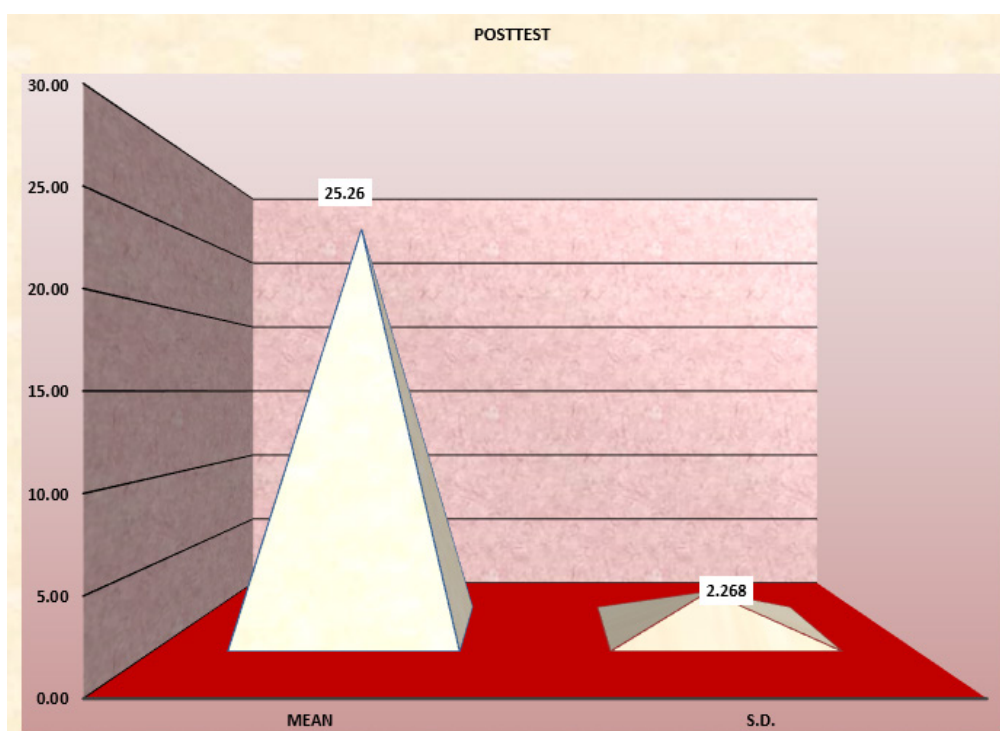


Figure 3: Triangle Diagram representing descriptive statistics of post-test level of knowledge

5.2 Section II

Table 5: Comparison of frequency & percentage distribution of pre-test and post-test level of knowledge

Criteria Measure of Knowledge Score		
Score Level (N= 62)	Pre-test f (%)	Post-test f (%)
Inadequate Knowledge. (0-11)	31 (50%)	0 (0%)
Moderate Knowledge. (12-21)	31 (50%)	3 (4.8%)
Adequate Knowledge. (22-32)	0 (0%)	59 (95.2%)
Maximum Score=32 Minimum Score=0		

Table 6: Comparison of descriptive statistics of pre-test and post-test Scores of knowledge (n=62)

Paired T-test	Mean±S.D.	Mean%	Range	Mean Diff.	Paired T-test	P value	Table Value at 0.05
Pre-test Knowledge	11.6±2.755	36.20	4-18	13.660	29.305 *Sig	<0.001	2.00
Post-test Knowledge	25.26±2.268	78.90	18-29				
** Significance Level 0.05 Maximum=32 Minimum=0							

Table 7: Comparison of descriptive statistics of pre-test and post-test Scores of knowledge (n=62)

Individual Score Gain (Effectiveness)						
Mean%	Pre-test Knowledge	Post-test Knowledge	Difference	Pre-test Knowledge Score %	Post-test Knowledge Score %	Difference%
Average	11.60	25.26	13.66	36.24	78.93	42.69

Table 8: Table Showing Association of Scores and Demographic Variables

Association of post-test knowledge scores with selected socio-demographic variables									
Variables	Opts	Adequate Knowledge	Moderate Knowledge	Inadequate Knowledge	Chi Test	P Value	df	Table Value	Result
Age	18-20 years	49	1	0	4.521	0.033	1	3.841	Significance
	21-23 years	10	2	0					
	24-26 years	0	0	0					
	Above 26 years	0	0	0					
Gender	Female	39	1	0	1.339	0.247	1	3.841	NS
	Male	20	2	0					
Education of father	Illiterate	10	0	0	2.626	0.453	3	7.815	NS
	Primary education	17	1	0					
	Secondary education	17	2	0					
	Graduate or above	15	0	0					

Education of mother	Illiterate	25	1	0	1.342	0.719	3	7.815	NS
	Primary education	22	1	0					
	Secondary education	7	1	0					
	Graduate or above	5	0	0					
Socio economic status	Good	34	1	0	0.809	0.667	2	5.991	NS
	Average	24	2	0					
	Poor	1	0	0					
Type of residence	Rural	42	2	0	0.028	0.866	1	3.841	NS
	Urban	17	1	0					
Occupation of father	Govt. employee	23	0	0	2.295	0.513	3	7.815	NS
	Employee in private sector	3	0	0					
	Self-employed	21	2	0					
	Other	12	1	0					
Occupation of mother	Govt. employee	3	0	0	0.338	0.953	3	7.815	NS
	Employee in private sector	1	0	0					
	Self-employed	2	0	0					
	Home maker	53	3	0					
Previous source of information	Print media (Newspaper, Magazine)	4	0	0	1.991	0.370	2	5.991	NS
	Mass media (Internet, TV, Radio)	20	0	0					
	Educational programmers	35	3	0					

This section deals with the findings related to the association between Knowledge score and selected demographic variables.

6. Results and Discussion

A. Findings related to knowledge level study subject: On the pretest ,maximum of study subjects the mean level of knowledge regarding blood donation among Ist year paramedical students was 11.60 ± 2.755 with mean percentage of 36.20% as per the level of knowledge, 31 students i.e. 50% of paramedical students were having below average knowledge, 31 students i.e. 50% of paramedical students were having average level of knowledge and no one of the paramedical student have adequate level of

knowledge regarding blood donation.

To assess the post-test level of knowledge score regarding blood donation among the paramedical students the mean post-test knowledge score related blood donation among Ist year paramedical students was 25.26 ± 2.268 with a mean percentage of 78.90%, in post-test we found that the 59 students i.e. 95.2% students had adequate level of knowledge, 3 students i.e. 4.8% had average level of knowledge and no one having inadequate knowledge now.

B. Findings related to compare pre-test and post-test level of knowledge: Regarding blood donation of study subjects. that the mean pre-test level knowledge among paramedical students regarding blood

donation was 11.60 ± 2.755 and the mean post-test knowledge score of paramedical students was 25.26 ± 2.268 which indicate there was a mean difference of 13.660 in the level of knowledge among study subjects regarding blood donation. Therefore, there was a significant rise in post-test knowledge score among paramedical students regarding blood donation and this increase in knowledge was significant at $p < 0.001$.

C. Findings related to association of knowledge level of subjects with selected demographic variables: The results showed that there was statistically no significant correlation between pre-test knowledge score regarding blood donation among 1st year paramedical students with their selected socio-demographic variables such as Age, Gender, Education of father, Education of mother, Socio-economic status of family, Type of residence, Occupation of father, occupation of mother and previous source of information.

7. Conclusions

Based on findings of study following conclusions were drawn:

Pretest findings showed that the majority of study subjects had inadequate knowledge. It may be due to lack of previous exposure and education regarding blood donation. SO, there was a need to educate them.

There was an improvement in the knowledge of study subjects after implementation of structured teaching program regarding blood donation.

No significant association was found between pretest knowledge score of study subjects regarding blood donation and their selected demographic variables probably have no effect on their knowledge.

Hence it can be concluded that knowledge of study subjects after implementation of STP has increased.

7. Source of Funding: None

8. Conflict of Interest: None

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