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KNOWLEDGE AND ATTITUDE REGARDING PREMARITAL SCREENING OF BETA THALASSEMIA AMONG THE STUDENTS OF A SELECTED COLLEGE OF SOUTH-24-PARGANAS, WEST BENGAL, INDIA

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ABSTRACT

INTRODUCTION: Beta-thalassemia is a preventable disorder. This is one of the most common genetic diseases in India.
MATERIALS AND METHODS: A descriptive study was conducted to assess the knowledge and attitude regarding premarital screening of beta-thalassemia among the college students of a selected college in South 24 Parganas, W.B. The conceptual framework adopted for the study was based on Rosenstock's 'Health Belief Model'. About 150 college students were selected as samples by non probability sampling technique to collect the data. A valid reliable structured knowledge questionnaire and Likert attitude statements were used for data collection.
RESULTS: The result revealed that college students had good knowledge score (53%) and moderately favourable attitude (64%). Significant relationship was found between knowledge and attitude on premarital screening of beta-thalassemia. There was significant association between knowledge score and gender, stream and living place, but there was no significant association between knowledge score and information regarding thalassemia and age. There was significant association between attitude score and age, gender, and stream but no significant association between attitude score and living place.
CONCLUSION: The study had implications in different fields of nursing practice, nursing education, nursing administration and also in nursing research.
RECOMMENDATION: A bigger study is required to generalise the findings of this study in order to change of behaviour for healthy future life.

INTRODUCTION

Beta-thalassemia is a preventable disorder. [1] This is one of the most common genetic diseases in India. [2] Haemoglobin disorders or haemoglobinopathies are a group of conditions affecting human blood. The term 'thalassemia' refers to a group of blood diseases characterized by the decreased or absent synthesis of normal globin chains. [3] The disease was first noted in the Mediterranean population and this geographical association explains its naming by Whipple and Bradford in the year 1992 as 'thalasa' which in Greek means the sea and 'haem' in Greek stands for blood. [4] According to the globin chain whose synthesis is impaired, the thalassemia are called alpha, beta, gamma, delta-thalassemia. Among them, beta-thalassemia includes three main forms: Thalassemia major or 'Cooley's anaemia', thalassemia intermedia and thalassemia minor is called 'beta-thalassemia carrier'. [1] Worldwide approximately 15 million people are estimated to suffer from thalassemia disorders of which 60,000-70,000 are thalassemia major. Reportedly beta-thalassemia is highly prevalent. There are about 240 million carriers of beta-thalassemia worldwide - 1.5 % of the global population. The first case of thalassemia found in non-Mediterranean person was from India. Subsequently cases of thalassemia were documented in all parts of India. [1] Thalassemia occurs mostly in people of the Mediterian, Middle-East, Africa, Itally, Greek, Thiland, Asia, Chinese and India. [5]

The main causes of thalassemia are lack of awareness and inadequate infrastructure. 'Prevention is better than cure' holds true for all diseases but is especially true for most genetic disorders where prevention is still the only solution. So, if we create awareness, they will know about thalassemia and they will be aware about premarital screening. Premarital thalassemia screening was first carried out in 1975 by Silverstone and Colleagues in Latium, Italy, as part of a school prevention programme. [6]

Premarital screening aims to identify carriers of the haemoglobin disorders in order to assess the risk of having children with a severe form of disease. The carrier persons may consider or reconsider their decision on marriage. Or the couple can choose whether or not to have an affected child.

A major outcome of this study was the detection of 'Thalassemia carrier' and it will help to reduce the incidence of thalassemia major cases which is a serious and major cause of morbidity.
Keeping all these issues in mind, the study was conducted to assess the knowledge of college students regarding premarital screening of beta-thalassemia, to determine the attitude, to find out co-relation between knowledge and attitude, to find out the association between knowledge and attitude and other selected variables.

MATERIALS AND METHODS:

Type of the study: It was a descriptive study. Rosenstock's "Health Belief Model" has been utilised in this study. [7]

Study setting: Dhruba Chand Halder College, South 24 Parganas, West Bengal.

Study population: First year students of all courses of the college.

Sample size: One hundred and fifty (150) students were the size of the sample population.

Sampling technique: This was one of the non-probability samplings.

Variables of the study: Knowledge of college students regarding premarital screening of beta-thalassemia, Attitude of college students regarding premarital screening of beta-thalassemia, Socio-demographic profile and general information etc are the issues which had been studied.

Tools of the study: Tool I: Semi-structured questionnaire on socio-demographic variables and general information; Tool II: Structured knowledge questionnaire regarding premarital screening of beta thalassemia; Tool III: Structured attitude statement regarding premarital screening of beta thalassemia

Data collection tools and techniques: The data collection tools were constructed in order to obtain the data. Semi-Structured Questionnaire on background information (Socio-demographic variable and general information) was developed and data were collected applying paper pencil test. Structured knowledge questionnaire regarding premarital screening of beta thalassemia was prepared by the investigators with checking by three public health specialists. Likert five-point attitude rating scale on

premarital screening of beta thalassemia was proposed and prepared by investigators and it was validated by three Community Medicine specialists. Later two situations took the help of paper pencil test during collection of data.

Knowledge of students regarding premarital screening: The tool consisted of 20 multiple choice items and all the items were structured. A score value of one (1) was allotted to each correct response and zero (0) for every incorrect response. So, the maximum possible score was 20.

Attitude of students regarding premarital screening: All the items were structured in Likert scale. Total items were 14. Scoring of the likert scale was based on type of statement and level of respondent's agreement with statement. For positive statement, students were given score5 if there was agreement and in case of negative statement, students were given score 5 if there was disagreement with statement. The highest possible score was 70.

Statistical Analysis: Both the descriptive and the inferential statistics were used for the analysis of collected data.

RESULTS:

Maximum college students (57%) belonged to the age group of 18 years. Majority of the college students (67%) were male. Most of the students (62%) were from Science background. All the students were single. Most students (94%) live in rural areas. Parents of students' [Father - 33% and Mother 40%] had gone through the primary level of education. Fathers of good number of students (79%) were self-employed. A good number of mothers of students (74%) were housewife. Most of the students (85%) had information regarding thalassemia. A fair number of students (72%) received information about thalassemia from books and media and the rest of the students received information from their family members and peer group.

Family members of two (1%) students had thalassemia disease (one cousin and one grandfather). Most of the parents (97%) had no blood relationship to each other. Maximum students (81%) had not done thalassemia carrier detection test because they had idea but did not get any scope.

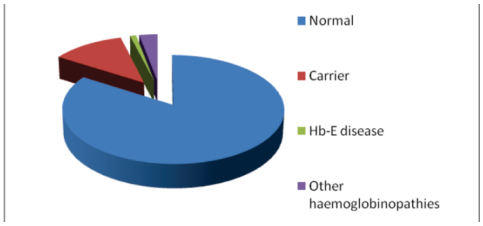

Figure 1: Pie diagram showing the distribution of students according to haemoglobinopathy

Students were found with thalassemia carrier (12%), Hb-E disease (1%), other haemoglobinopathies (3%) (Figure1). Majority of them (84%) were found normal (without any kind of haemoglobin abnormality).

Majority of the students (61%) agreed for thalassemia screening without any motivating actions, but the rest required request once or twice for thalassemia screening.

Table 1: Represents frequency, percentage distribution, Mean, Median and SD of respondents according to their knowledge score regarding premarital screening of beta-thalassemia (n=150)

Grading	Obtained scores	Frequency	Percentage %	Mean	Median	SD
Poor	<8	07	05	12.61	13	2.56
Average	8-12	60	40			
Good	13-16	80	53			
Excellent	>16	03	02			

More than half of the students (53%) had good knowledge score on premarital screening of beta-thalassemia with mean knowledge score 12.61 ± 2.56 and median 13 (Table 1).

Table 2: Distribution of scores* representing frequency, percentage distribution, Mean, Median and SD of respondents according to their attitude score regarding premarital screening of beta-thalassemia (n=150)

Grading	Obtained scores	Frequency (%)	Mean	Median	SD
Unfavourable Attitude	35-45	5 (3)			
Moderately Favourable Attitude	46-56	96 (64)	54.15	53	5.04
Favourable Attitude	57-68	49 (33)			

*Maximum Possible Score-70, Minimum Possible Score-14

Most of the students (64%) had moderately favourable attitude regarding premarital screening of beta-thalassemia with mean attitude score 54.15 ± 5.04 and median 53 (Table 2).

Relationship between knowledge and attitude:
Moderately positive correlation (0.43) between knowledge score and attitude score of students on premarital screening was found. There was statistically significant correlation between knowledge score and attitude score of the students ('t' = 5.82, df = 148, $p < 0.001$).

Association between knowledge and other variables:
There was significant association between knowledge score and male students. Similar association was found with science stream, urban place of living at 0.05 level of significance. There was no significant association between age with knowledge score and information regarding thalassemia with knowledge score at 0.05 level of significance.

Association between attitude and other variables:
There was significant association between attitude score and upper age of students. Similar association was found with male students, science stream at 0.05 level of significance. There was no association between place of living with attitude score at 0.05 level of significance.

DISCUSSION:

The present study assessed the knowledge and attitude of college students regarding premarital screening of beta-thalassemia in a selected college of West Bengal on the basis of prepared structured questionnaire.

Present study showed that eighty five percent students had heard the term 'Thalassemia' from a single or multiple sources and fifteen percent students never heard the term 'Thalassemia'. Janak K Shrivastava, Nupur Sinha, S K Behera, S Panja et al previously conducted a study on knowledge, attitude and practice regarding beta-thalassemia at South 24 PGS districts in West Bengal. That study revealed that among 1073 participants, only 407 (37.93%) participants heard the word 'beta-thalassemia' [8] though the district was considered to be high risk zone for beta-thalassemia. This was really low in comparison with the present study.

Present study revealed that the main sources of information of the students' regarding thalassemia were from school/college/Family member/Peer group (72%), media/book (28%). The similar study done by Al Kindi R, Al RS and Al Kendi M in Oman where university students got information regarding thalassemia by school/college (n=540,36%), media (n=540,33%) and/or health services (n=540, 92%). The vast majority of the participants (92%) thought it is important to carryout premarital screening and agreed to do it. [9]

The obtained result in the present study had shown that maximum students had good knowledge (53%) and moderately favourable attitude (64%). Student's mean knowledge score was 12.61 ± 2.56, out of a maximum of 20. A similar study was done by Wong L.P, George E and Tan JA to determine differences in public awareness, perception and attitude toward thalassemia in Malaysia, where mean knowledge score was 11.85 ± 4.03, out of a maximum of 21, with higher score indicating better knowledge. The majority expressed very positive attitude towards screening of thalassemia. [10] Findings were similar to the present study.

A study done in Alexandria to assess the knowledge and attitudes

of nursing students toward premarital counselling revealed that 46.5% of them had an average score in knowledge. [11]

Al Kindi reported that the participants' attitudes towards pre-marital screening were favourable, where the majority (92%) believed that pre-marital screening is important and agreed to carry it out in the future. This is similar to what had been reported in other study of Arabian countries. The majority of the participants reported that they performed pre-marital screening to prevent transmission of diseases to their children. This reflects that the participants had a good understanding of the preventive value of pre-marital screening. A minority of the participants refused to carry out screening tests. They listed various barriers of this screening. All those barriers could contribute to the misunderstanding of the aim of pre-marital screening and it was seen as one of the misconceptions of the Islamic rules. [9] Mirza A et al conducted a study among non-medical universities to assess the student's knowledge of beta-thalassemia and premarital screening and their attitude toward such a programme. Among 380 students the mean knowledge score was 13.0 ± 4.4 out of 27 questions. The positive attitude towards premarital screening with low background knowledge of the disease highlighted the need of a mass awareness campaign and subsequent implementation of a premarital screening programme. [12]

CONCLUSION

Most of the students were found with good knowledge and moderately favourable attitude toward premarital screening. Majority of students volunteered to undergo thalassemia screening programme where a good fraction required motivation. This study reflected that the need of health education was a keystone for hundred percent premarital screening motivation and for improving knowledge and attitude towards premarital screening of beta-thalassemia.

Recommendations

Follow up study can be conducted to find out the effectiveness in terms of change in behavior among the follower groups. Teaching-learning session can be done to provide knowledge to the students by using self instructional module, computer assisted instructions and video film etc to practice in their future lives. As an experience, application of comprehensive health education programme about beta-thalassemia and the importance of premarital screening through different mass media especially TV may be recommended to play its role for positive attitude in favour of premarital thalassemia screening in order to avoid the increased incidence of haemoglobinopathies.

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