ORIGINAL ARTICLE

Screening of Psychiatric Disorders : A step forward towards safe blood donation

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ABSTRACT

Background

Multiple safety measures for screening blood donors are undertaken to make blood transfusion safe for the patients. Screening for severe psychiatric disorders may be a step forward toward the practice of safe blood donation. This study was undertaken for screening for psychiatric disorders by administering a brief psychiatric interview on all the donors. Those with a positive answer were explored by the MMSE (Mini-Mental State Examination) and finally referred to the psychiatry department for further evaluation and definitive diagnosis.

Objective

To study the effectiveness of administering a brief psychiatric interview in strengthening the overall donor selection process.

Method

All those who participated in a blood donation camp from October 1, 2015 to October 10, 2015, at AN Magadh Medical College & Hospital, Gaya, Bihar, India were taken into study. The brief psychiatric interview and MMSE were administered to all of them. The results were analyzed statistically.

Results

The donors were predominantly males (95.28%). Most of the donors (51.97%) were in the age group of 25-44 years. Young donors of age 18-24 years represented only 27.56%. There were two (1.57%) donors with a positive answer on the brief psychiatric interview. Furthermore, both of them showed mild cognitive impairment on the MMSE scale. According to MMSE subscales attention, registration, and recall were the most impaired cognitive areas.

Post-donation advice and care were provided to all the successful donors, and the deferred donors were documented, counselled and referred for further management.

Keywords : Brief psychiatric interview, Mini-mental state examination, blood donation, deferral

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INTRODUCTION

Blood donation camps play an integral role in the smooth functioning of a blood bank. It is a well-known fact that distribution of age and gender who participates in a blood donation camp varies significantly. A substantial number of apparently healthy donors are not able to donate blood because of varied reasons. Individuals who are disqualified from donating their blood are known as "deferred" donors. Stringent donor screening criteria are necessary to protect blood donors and recipients. [1] Only individuals in good health should be accepted as blood donors. Good health is hard to define, but certain associated parameters may be established from a brief interview, observation, and simple tests.

The WHO (World Health Organization) guidelines on assessing donor suitability for blood donation dictates that the donors with anxiety disorders and mood (affective) disorders, such as bipolar disorder or depression, may be accepted provided they feel well and are stable on the day, regardless of medication. Individuals with psychotic disorders, such as schizophrenia and related conditions, are usually not suitable to donate blood. [2] According to NBTC (National Blood Transfusion Council) guidelines, the donor should be in a healthy state of body as well as the mind.[3] However, the blood donor questionnaire of either WHO or NBTC which is currently in practice does not emphasize much on identifying psychiatric disorders.[2,3]

METHOD AND MATERIALS

In the current study, all the donors who participated in a blood donation camp organized at our hospital, Gaya, India from October 1, 2015, to October 10, 2015, were taken into study.The data was collected using a standardized blood donor questionnaire as per NBTC. [3]

A brief psychiatric interview [4] was administered on all the donors during the one-to-one confidential interview phase. In essence, it is merely a condensed psychiatric interview given as briefly as possible so that a large number of people may be handled in the shortest possible time. Specific questions were asked to look for those specific psychiatric disorders which may be a reason for deferral. Donors with a positive answer were further explored with the Mini-Mental State Examination[5] during the donor health and risk assessment phase, keeping in mind certain recommendations from Tombaugh and McIntyre[6] as applicable, to test their cognitive function. The MMSE includes 18 questions which test five areas of cognitive function: orientation, registration, attention and calculation, recall, and language. Any score which was greater than or equal to 24 points (out of total 30) indicated a normal cognition.

RESULTS

The donors were predominantly males (95.28%); similar to another study. [7] Most of the donors (51.97%) were in the age group of 25-44 years, a finding somewhat similar to high-income countries where 25–44-year-old donors constitute ~40%. Young donors of age 18-24 years represented only 27.56% (Table: 1).

Table 1 : Distribution of the Study Subjects by Age and Gender

Age	Male	Female	Total
18-24	34	1	35
25-44	62	4	66
45-64	25	1	26
Total	121	6	127

Out of 127 donors, a total of 15 (11.81%) were deferred in our study. Deferred cases were broadly classified into either temporary or permanent category. There were 12 (9.45%) temporary and 3 (2.36%) permanent deferrals out of those 127 donors (Table: 2, 3).

Table 2 : Distribution of Temporary Deferral by Age and Gender

Causes	18-24		25-44		45-64		Total
	M	F	M	F	M	F	
Anemia	0	1	1	3	2	0	7
Pregnancy	-	0	-	1	-	0	1
Bipolar I Disorder (currently manic)	0	0	1	0	0	0	1
Hypertension	2	0	0	0	0	1	3
Total	**3**		**6**		**3**		**12**

Table 3 : Distribution of Permanent Deferral by Age and Gender

Causes	18-24		25-44		45-64		Total
	MF		MF		MF		
Over-age	-	-	-	-	1	0	1
Diabetes mellitus (on insulin)	0	0	1	0	0	0	1
Schizophrenia	1	0	0	0	0	0	1
Total	1		1		1		3

The reasons for deferral were Anemia (Hb<12.5 g/dl), Over-age (>60 yrs.), Pregnancy, Individuals with Hypertension (>180/100 mmHg), with Diabetes mellitus (DM) on insulin, with Bipolar I Disorder currently manic and with Schizophrenia (Table : 2, 3).

The reason for deferral were two undiagnosed psychiatric disorders recognized through positive answers for mania in one and delusions, hallucinations in the other on the brief psychiatric interview. Their MMSE scores were 15/30 and 12/30, which on further evaluation were diagnosed as Bipolar I Disorder currently manic [296.42 (F31.12) Bipolar I Disorder, current episode manic, moderate severity, with mixed features] and Schizophrenia currently in an acute episode [295.90 (F20.9) Schizophrenia, Multiple episodes, currently in acute episode], respectively. Thus, psychiatric disorders accounted for a deferral of 1.57% in our study.

More impairment was noted in attention, registration, and recall than other areas of cognitive function on MMSE subscales in both the cases (Table: 4).

Table 4 : Cognitive impairment according to MMSE subscales

Subscales	Scores	
	A	B
Orientation	7	6
Registration	1	1
Attention and Calculation	2	1
Recall	1	1
Language	4	3
Total	15	12
A = Bipolar I Disorder currently manic **B** = Schizophrenia currently in an acute episode		

However, as can be noticed (Table: 4), the severity of cognitive impairment was found to be greater in the individual who was later diagnosed with Schizophrenia currently in an acute episode than with the other diagnosed as a Bipolar I Disorder currently manic, similar to another study.(8)

DISCUSSION

Female blood donation remains a challenging task which needs to be promoted. Cultural surrounding, common myths, and misconceptions may be responsible for a lower percentage of women volunteering for blood donation. High level of awareness bringing a sense of social responsibility may be one of the reasons for more participation by the middle-aged donors of age 25-44 years. In a study done in Hong Kong, it was noticed that fixed and frequent camps were required to increase the awareness and donation among youths. (9) Therefore, a separate strategy may be needed to ensure better participation of young donors of age 18-24 years.

The acceptance of individuals with the past or current mental health problems as blood donors usually depend on an assessment of their ability to completely answer the donor questionnaire and interview as well as to give informed consent to the donation process, including the testing of their blood. The brief psychiatric interview provided a gateway to the mental health of the donors. They were asked specific questions pertinent to depression, mania, anxiety, delusions, and hallucinations to look for specific psychiatric disorders which might have affected their eligibility to donate blood. Research has shown a relation between mood and cognitive ability. Disorders of mood are accompanied by a range of cognitive impairments. [10] Similarly, cognitive deficits are found in nearly all patients with schizophrenia. Therefore, it is likely that almost all patients with schizophrenia are functioning below the level that would be expected in the absence of the illness. [11] Because psychiatric disorders can cause an impairment of orientation, registration, attention and calculation, recall, and language, the administration of the MMSE assisted in exploring further those cases who responded with a positive answer on the brief psychiatric interview. It is reasonable to accept the donation from individuals with Bipolar I Disorder provided they are basically in good health and are not obviously manic or depressed when seen on the day of donation, regardless of medication. Those who have Schizophrenia are usually not suitable to donate blood.

CONCLUSION

We concluded that the administration of brief psychiatric interview strengthened the overall donor selection process by recognizing those cases which were not suitable for safe blood donation.

Furthermore, the MMSE clearly assisted in exploring further those cases who responded with a positive answer on the brief psychiatric interview.

The brief psychiatric interview as well as the MMSE take only 5-10 minutes to perform and are, therefore, practical to employ repeatedly and routinely. However, any abnormality indicating a possible psychiatric disorder requires further evaluation to reach a definitive diagnosis.

FINANCIAL SUPPORT AND SPONSORSHIP

Nil

CONFLICTS OF INTEREST

There are no conflicts of interest.

ACKNOWLEDGEMENT

The authors wish to express its thanks to all the health workers, staff, and donors for their contribution.

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