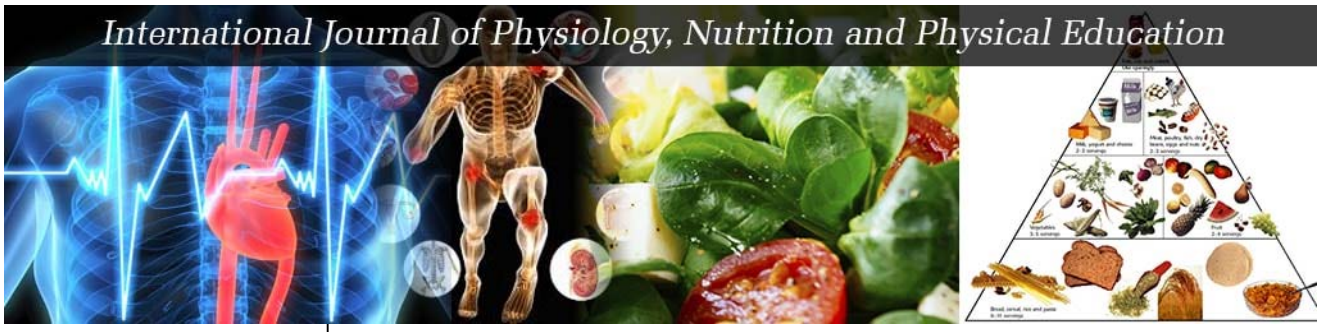

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Assessment of comprehensive knowledge on HIV/AIDS among neuropsychologically healthy female students of a women's college: A suburban perspective study from a district town of Eastern India

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Abstract
HIV/AIDS has become one of the most serious public health problems throughout world including India. The young adults particularly the females are more prone to HIV infection. There may be the role of poor knowledge regarding HIV/AIDS among the young adult female for such vulnerability. This present study was done to find out the HIV/AIDS knowledge level among the female college students in a remote district of India. Altogether 147 Neuropsychologically healthy female students from the different department of Arts Faculty were included. Some demographic parameters including caste, family size and birth orders were associated with poor knowledge in HIV/AIDS. The knowledge regarding HIV/AIDS was varied among the students learning different subjects at the undergraduate level ($F=2.951$; $P<0.05$). This study indicated that only 25.85% students have excellent knowledge in HIV/AIDS. This finding should be addressed by implementation of large scale health awareness programme as early as possible.

Keywords: HIV/AIDS, neuropsychological health, caste, arts faculty, family size, birth order

Introduction
Human immunodeficiency virus (HIV) infection is now gradually increasing in India after the first case was detected in 1984. Acquired immunodeficiency syndrome (AIDS) is the most advanced stage of HIV infection. The recent report stated that HIV/AIDS has claimed 35 million deaths so far, while approximately 6.7 million people are living with HIV infection and 1.8 million people have been newly infected in 2016 throughout the globe [1]. Thus, HIV/AIDS has become one of the most serious and enormous public health issues throughout the globe [2, 3]. HIV/AIDS pandemic has affected all the countries from developed to underdeveloped. The prevalence of HIV/AIDS in India is low (0.34%) but as the population size is much larger, so this country has the third highest number of people infected with HIV [4]. The complex socio-cultural stratification increases the risk of acquiring HIV infection in India. In India, the unprotected sexual intercourse with an infected person is the most common route of transmission accounting 84.7% of all HIV transmission [5]. The others route of transmission are mother to child transmission during pregnancy, childbirth and breastfeeding. Other than that sharing of contaminated needles, injecting drug use, and transfusion of contaminated blood can also cause this infection.
Throughout the world, every minute one young woman is infected by HIV. This is the leading cause of death among women of reproductive age group [6]. The Indian government has estimation that nearly 2.5 million people living with HIV/AIDS among which 40% are women in India [5]. The younger population is more vulnerable being infected by HIV/AIDS as the young adults, particularly college and university students are in a phase of physical, neuropsychological and hormonal development. As a result, through interpersonal relationships sexual experimentation takes place, making them specifically susceptible to sexually transmitted diseases (STDs) as well as HIV infection.

Many other factors like lack of knowledge about HIV/AIDS, lack of proper education, poor access to health services and facilities, early sexual debut, early marriage, sexual intimidation increases the susceptibility [7].

HIV Infection has also a number of psychological ramifications. Firstly, patient's background and premorbid personalities are important for risk behavior. Secondly, infected person manifests psychiatric syndromes_due to the neurotropicity of the virus and by its effect on the brain tissue. Thirdly, it carries tremendous emotional issues such as stigmatization, issues related to Psychiatric syndromes, because of their faulty judgment prone to acquiring HIV Infection [8].

Most studies reveal that knowledge regarding HIV Infection is crucial, being informed is not enough to change people's behavior. In this background, the present study was an attempt to understand the level of knowledge about HIV/AIDS among neuropsychologically healthy female college students of the district town of Midnapore, West Bengal, India.

Methodology

This cross-sectional student based study was conducted in the women's college of Midnapore, West Bengal, India during November, 2016 to January, 2017. This district town is located at 22.25°N 87.65°E and is 23 metres above sea-level.

Participants

The study group was consisting of neuropsychologically healthy 147 female students. The inclusion criteria were (1) the college students residing at Paschim Medinipur District and (2) age range of the subjects were between 18 and 22 years. Young adult females with history of unhealthy neuropsychological condition were excluded from this study.

Procedures

Psychological Assessment: Initially 28-items of the scaled version of the General Health Questionnaire (GHQ) was applied to the female college students in a simple random method to compare recent psychological state with their usual state [9]. For each item four answer possibilities were available (1-not at all, 2-no more than usual, 3-rather more than usual, 4- much more than usual). The higher the score the poorer was the psychological well-being of the patient. The Diagnostic and Statistical Manual of Mental Disorders, Fifth edition (2013) and Mini Mental State Examination [MMSE] were also used for the assessment of the psychological status [10-12].

Assessment of knowledge on HIV/AIDs: The study instrument was a self-administered pre-tested questionnaire that was constructed with questions derived from previous studies [7, 13-16]. The questionnaire on knowledge of HIV/AIDs among the students was consisting of 20 questions of which 13 questions related to HIV transmission and rest 7 questions related to general information. A two point Likert-type scale "Yes" or "No" was used to get the answer. Each correct answer weighing 1 marks and wrong answer weighing 0 marks. So, the maximum marks will be 20 and minimum will be 0. The students were classified into three groups on the basis of knowledge score i.e. Excellent (≥75%), Good (50-74%), Moderate (24-49%) and Poor (<23%).

Ethics

Permission was obtained from Institutional Ethics Committee prior to the study and written consent was taken each of the students before conducting the study.

Statistical analysis

The data were analyzed by the software SPSS 17 for Windows (SPSS Inc., Chicago, USA) for assessment of correlation between knowledge score, demographic and educational variables. Descriptive analysis was done using Pearson's chi-square and Student's t-test. To compare different variables and knowledge status, one way ANOVA is used. $P<0.05$ was considered as statistically significant.

Results and discussion

The total number of female participants in this study was 147 and the mean age was 19.01±1.11years (Table 1). The study indicated that mean score of HIV/AIDS knowledge was 12.41±2.61. It was found that the 25.85%, 56.46%, 17.69% of the students had excellent, good and moderate knowledge respectively. The percentage of correct answer of each question given by the respondents was shown in table 2. This study indicates that there is a serious lacuna of health awareness among the students. Similar finding was observed from previous studies [16].

Table 1: Descriptive statistics of the demographic, educational parameters

Parameters	Mean±sd/N(%)
Age (years)	19.01±1.11
Birth order	1.66±0.78
No. of Family Members	6.38±3.99
Caste	
GEN	99 (67.35)
SC	17 (11.56)
ST	13 (8.84)
OBC	18 (12.24)
Class	
1st year	99 (67.35)
2nd year	44 (29.93)
3rd year	4 (2.72)
Stream	
Language	53 (36.05)
Arts & Humanities	33 (22.45)
Fine Arts	9 (6.12)
General	52 (35.37
Knowledge Score	12.41±2.61
Grades of Knowledge	
Excellent (≥75%)	38 (25.85)
Good (50-74%)	83 (56.46)
Moderate (25-49%)	26 (17.69)

Table 2: HIV/AIDS knowledge (% of correct answers)

HIV/AIDS knowledge Statements	Correct answer (%)
HIV is the virus that causes AIDS	96.60
A person who is HIV positive has AIDS	29.30
There is no cure for AIDS currently	55.10
There is no vaccine against HIV currently	69.40
Having a STI can increase a person's risk of getting HIV	66.00
People who have been infected with HIV quickly show serious signs of being infected	46.30
The acronym AIDS stands for Acquired immunodeficiency syndrome	87.80
The acronym HIV stands for Human immunodeficiency virus	74.80
Taking a test for HIV one week after having sex will tell a person if she/he has HIV	26.50
A pregnant HIV positive can transmit HIV to her baby	83.00
A mother who is HIV positive can infect her child through breast feeding	49.70
Coughing and sneezing do not spread HIV	61.90
A person can get HIV by sharing a glass of water with someone who has HIV	80.30
Mosquito bites is one possible cause of infection	52.40
A woman can't get HIV if she has sex during her period	49.70
A person can get HIV from oral sex	43.50
A woman can get HIV if she has anal sex with a man	76.20
Having multiple sexual partners increases the risk of getting HIV	78.20
Using Vaseline or baby oil with condom lower the chance of getting HIV	59.90
Showering or washing ones genital/private parts, after sex keeps a person from getting HIV	54.40

It was found that students belonging to General caste (12.78±2.72) had better knowledge than SC (11.88±1.83), ST (10.54±2.40) and OBC (12.22±2.24) students and it was statistically significant (F=3.291; $P<0.05$) given in Fig 1. This indicates that the students from the SC, ST are still in the poor state on acquiring the health education. This may due to the individual centric rituals and poor accessibility of health education, less availability of exposure to media and internet. One of the causes of their poor knowledge regarding health education may be students from the ST category are the first generation learner.

It was found to be a fascinating outcome that among all the students from Arts and Social sciences, the students of the Language group (13.13±2.82) had the better knowledge than Fine Arts (12.67±2.40), Arts & Humanities (12.36±2.60) and General students (11.65±2.27). It may be an incidental finding.

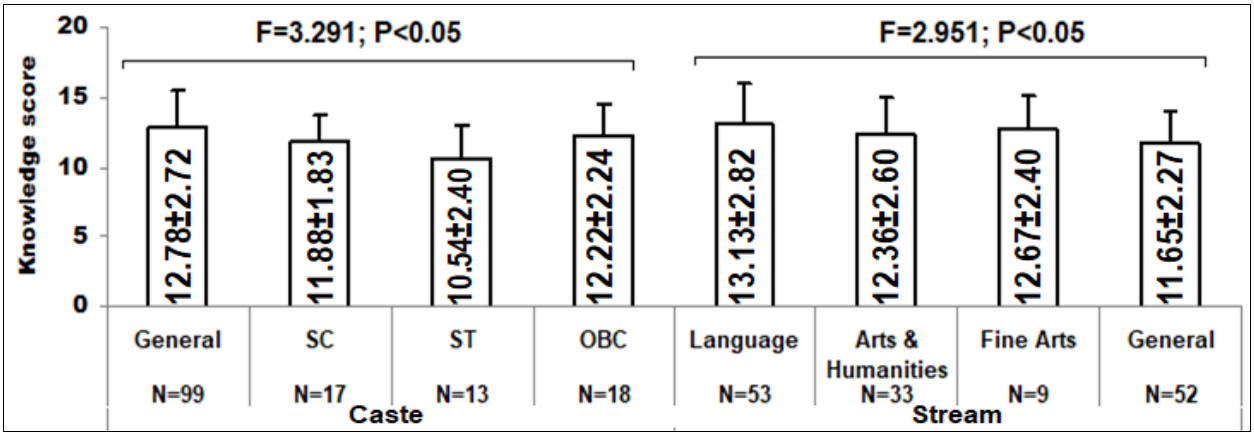

Fig 1: Impact of caste and stream of the students on their HIV/AIDS knowledge

It was noticed a negative association (r=-0.202; $P<0.05$) between the HIV/AIDS knowledge and total number of family members (Table 3), i.e. larger the family size lower the HIV/AIDS knowledge level. This may be due the structural stratification of the family. In the small family size parents were more open than the large family and the necessary information were given to the children.

Table 3: Correlation between HIV/AIDS Knowledge and some demographic parameters

Demographic Parameters	HIV/AIDS Knowledge
Age	0.028
Birth order	-.355***
No. of Family Members	-.164*
Class	.243**
Statistical significant at *$P<0.05$; **$P<0.01$; ***$P<0.001$	

Conclusion

This study indicates that the knowledge on HIV/AIDS among neuropsychologically healthy female college students was not satisfactory. Only 25.85% students have excellent knowledge on HIV/AIDS. Many misconceptions regarding HIV/AIDS were common. So developing awareness and knowledge is very much important to mitigate such situation. Government and many non-government organizations have taken different approaches but this is not enough. A holistic approach should be endorsed to combat with this uprising, alarming situation.

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