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RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS BLOOD DONATION AMONG MEDICAL STUDENTS.

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Abstract

Background: Understanding the knowledge and awareness of blood donation among potential donors in the population, like young people, and the attitudes and practices is important.

Purpose: To investigate the knowledge, and practices and both positive and negative attitudes about blood donation among undergraduate medical students in Hail University.

Methods: We studied 300 (Saudi Arabian) students(150) male and (150) female of different ages and different class years as a cross sectional study, was done by questionnaire .

Results:Knowledge of Blood Transfusion: Regarding the knowledge of common blood groups among medical student in comparison to age, showed that 93 (31.00%) of the participant at the ages 21 to 22, compared with only two (0.07%) at the ages 25-27 ($P < 0.001$).

The relation of disease knowledge among medical student and class year showed that most of students at the 5th year class have more knowledge than others about HIV, HBV , HCV and malaria are (34.33%), (31.33%) ,(30%) and ,(26.33%) respectively .

Attitude towards Blood Donation: 11% of both sexes strongly agree that young people should donate blood rather than old . 22(7.33%)male and 16(5.33%)female strongly agree that the best way to donate blood is paid donation.

Practice of blood donation:39(13%) of males and 9(3%) of females donate before comparing with only 111(37 %) of males and 141(47%) of females not donate before. 78(26%) of males and 38(12.67%) of females not donate because of no payment.

Conclusion:Medical field students have positive perception towards blood donation; however, only few of them have donated. However, the level of awareness in our society was poor which could be due to the lack of knowledge about blood donation.

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Introduction:-**Blood Donation:-**

Every second for every day, people around the world of all ages need blood transfusions to survive. Millions of blood units were collected from donors every year but demands are increasing day by day that is pushing for sufficient and timely provision of blood [1].

Blood transfusion is considered an indispensable component of health care as it saves millions of lives each year worldwide, permits complex medical and surgical interventions and improves the life expectancy and life quality in patients with a variety of acute and chronic conditions. It is an important concern for the society, as it is life saving for patients with bleeding disorders, accidents, surgeries, inherited/acquired hematological diseases and malignancies. As a result of, the need for blood is growing day by day all over the world due to the advances in clinical sciences and population increase [2&3].

The requirement of blood and blood products in a country depends on the population, health-care structure, prevalence of conditions requiring regular transfusion, such as Hemophilia & Thalassemia [4]. The only source of blood is by blood donation [5].

The World Health Organization (WHO) calls for countries to focus on young people to achieve 100% non-remunerated voluntary blood donation [6].

The objective of this study:-

To evaluate the current situation of the knowledge, and practices and both positive and negative attitudes attitude about blood donation among undergraduate medical students in Hail University.

To find out the differences in knowledge, attitude & practices about blood donation among students of pre-clinical and post clinical years.

To determine major factors preventing an individual from donation.

Literature review:-

University education should incorporate knowledge on blood donation to improve awareness about blood donation practice. Medical students can be change- makers motivating their peers and general population to donate blood. Policy makers, religious leaders, regular peer donors and persons saved by blood donation should be approached to encourage students to donate blood during campaigns [7].

Also in the Department of Physiology, College of Medicine, King Saud University Hospitals in Riyadh, 2008 conducting study consisted of 335 male (55%) and 274 female (45%) to assess the attitude, belief and knowledge regarding blood donation and transfusion and the result concluded that the majority of the sample (65.84%) were non-donors. These non-donors (78.98%) were between the ages of 15-30 years. The 88.5% of the people who participated in the study believed that blood donation was not harmful, 20% of them stated that they would refuse blood transfusion even if they were in need because of the risk of acquiring infectious disease. 84.5% preferred direct donation, (49%) of the sample stated that they would accept blood donation only from relatives and 55.1% believed that blood transfusion was safe. However, 11.6% claimed to have acquired infectious disease after blood transfusion, 58% female in addition to 11.34% male preferred to receive blood from female donor and 69.5% did not know if the blood banks were in need of blood or not and 17.4% believed that all surgical procedures require blood transfusion [8].

Materials and Methods:-

This study was planned as a cross sectional study on medical students, was done by questionnaire which was developed by the supervisors and students. A questionnaire comprising 29 questions were used. The questions asked for determining the level of knowledge were yes or no questions. Questions to determine the attitude and practice were prepared as yes/no and multiple choice questions. In true and false and yes/no questions differences between the 2 groups are tested. In multiple choice questions differences between the answers are tested.

We studied 300 (Saudi Arabian) students 150 male and 150 female of different ages and different class years from faculty of Medicine .

The study participant were interviewed separately the undergraduate, male group : second year (13), third year (32), fourth year (51), fifth year (32), and sixth year (22) and female group : second year (30), third year (27), fourth year (31), fifth year (21), and sixth year (41).

Statistical analysis:-

The observations for each question are tabulated. Statistical comparison was done using SPSS (cross tabulation and Chi-Square (X^2) statistical analysis ,Phi and cramer' s V) was used to compare the answers given by the 2 groups and P values less than 0.05 were considered significant.

Results and Discussion:-

This study was done about blood donation among undergraduate medical students of pre-clinical and post clinical years in Hail University.

It was shown that 13% of males donate before comparing with only 3% of females. While, 19.33% of males and 20% of females not satisfied to donate. However, the level of awareness in our society was poor which could be due to the lack of knowledge about blood donation.

Knowledge of blood donation:-

Do you know the common blood groups:-

The result obtained about the knowledge of common blood groups among medical student male and female in comparison to age 88(29.33%) at the age 19-20, 93 (31.00%) of the participant at the ages 21 – 22 and 80(26.67%) said yes, compared with 8(2.67%) at age 19-20, 23(7.67%) at age 21-22, 6(2%) at age 23-24 and only 2 (0.07%) at the ages 25-27 as shown in figure no. 1($P < 0.001$).

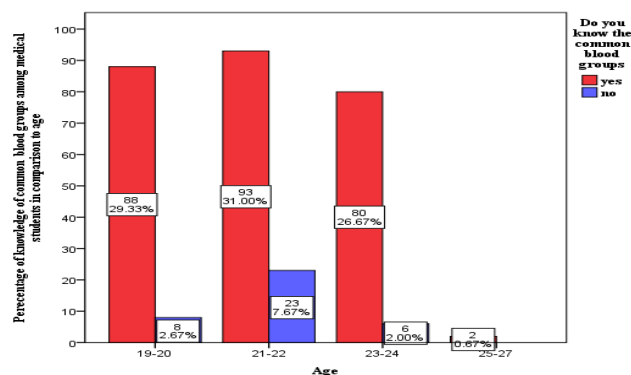


Figure No.1:-Percentage of knowledge of common blood groups among medical student in comparison to age. Values were expressed as frequency percentages $P < 0.001$ highly significant difference from all sample

What diseases are transmissible by blood transfusion?:-

The knowledge of HIV disease transmitted by blood transfusion among medical students. No significant difference were found among sex, both males 136(45.33%) and females 136 (45.0%) said yes and male 14(4.67%) and female 15(5%) said no ($P < 0.001$).

While, 111(37%) and 108(36%) of both males and females respectively know the HBV disease transmitted by blood transfusion .39(13%) male and 42(14%)female said no, there is no significant difference among the two sexes ($P < 0.001$).

Also 118 (39.33%) of males participant answered that HCV disease is one the disease that transmitted by blood transfusion compared with 96 (32.0%) of females. While, 32(10.67%) and 54(18.00%) of males and females said no ($P < 0.001$). In addition to that malaria is the one of the disease that is transmitted by blood transfusion 65(21.67%)male and 79(26.33%)female said yes and 85(20.33%)female,71(23.67%)male said no as shown in figure no.5($P > 0.001$).

The relation of disease knowledge among medical student and class year showed that most of students at the 5th class have more knowledge than others about HIV, HBV, HCV and malaria are (34.33%), (31.33%), (30%) and (26.33%) respectively as shown in figures no.2, 3, 4 and 5.

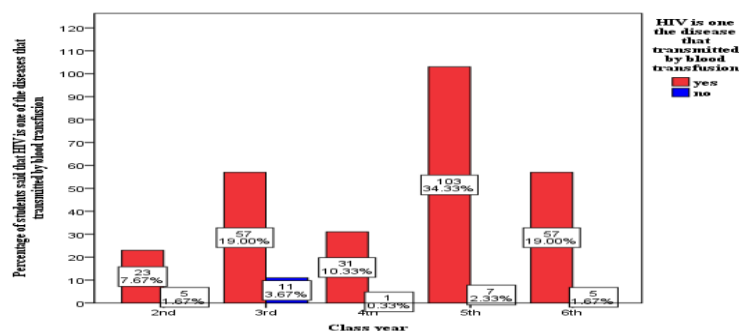


Figure No. 2:-Percentage of knowledge of HIV disease transmitted by blood transfusion among medical students. Values were expressed as frequency percentages $P < 0.05$ significant difference from each class.

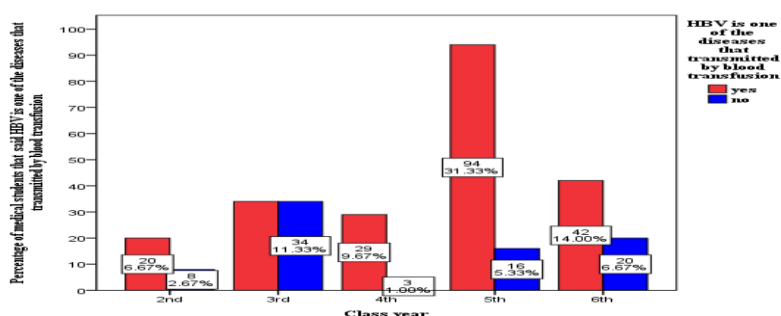


Figure No. 3:-Percentage of knowledge of HBV disease transmitted by blood transfusion among medical students. Values were expressed as frequency percentages $P < 0.0001$ highly significant difference from each class

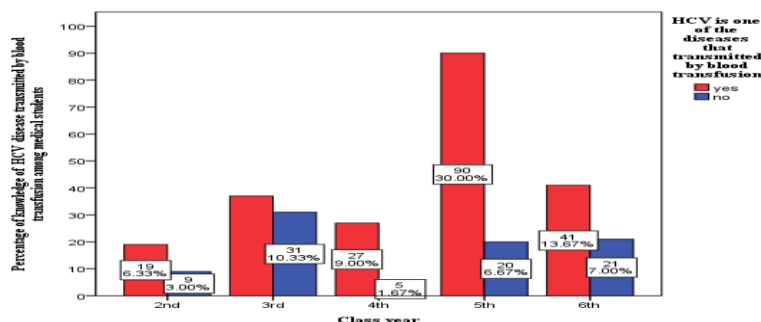


Figure No. 4:-Percentage of knowledge of HCV disease transmitted by blood transfusion among medical students. Values were expressed as frequency percentages $P < 0.001$ highly significant difference from each class

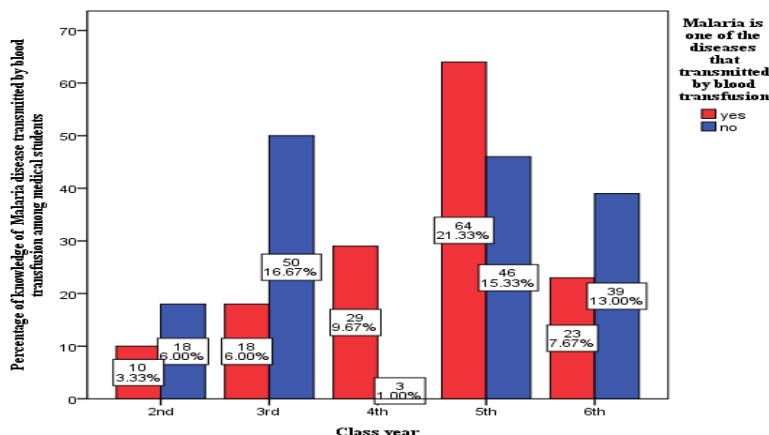


Figure No. 5:-Percentage of knowledge of Malaria disease transmitted by blood transfusion among medical students. Values were expressed as frequency percentages $P < 0.0001$ highly significant difference from each class

Attitude toward blood donation:-

I think young people should frequently donate blood rather than old:-

11% of both sexes strongly agree that young people should donate blood rather than old .49(16.33%) male compared with 51(17%)female agree that young people should donate blood rather than old .34(11.33%) male and 37(12.33%)female uncertain. 18(6%)male and 15(5%) female strongly disagree . No significant difference were found as shown in figure no.6($P>0.05$).

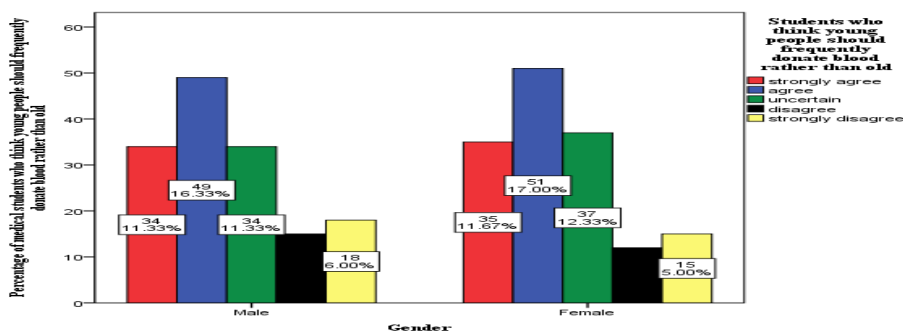


Figure No.6:-Percentage of medical students who think young people should frequently donate blood rather than old.

Values were expressed as frequency percentages no significant difference between male and female($P>0.05$):-

In my opinion the best way to donate blood is voluntary non paid:-

40(13.33%) male and 38(12.67%)female think that non paid donate are best for blood donation.while52 (17.33%) male and 61(20.33%) female agree. 32(10.67%) male and 34(11.33%) female uncertain.9(3%) male and 11(3.67%)female disagree.17(5.67%)male and 6(2%) female strongly disagree. No significant difference were found as shown in figure no.7 ($P>0.05$).

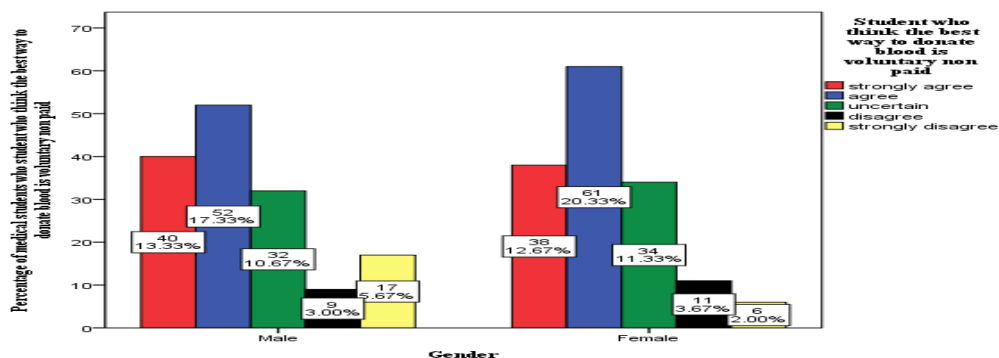


Figure No.7:-Percentage of medical students who think the best way to donate blood is voluntary non paid. Values were expressed as frequency percentages no significant difference between male and female($P>0.05$).

In my opinion the best way to donate blood is paid donation:-

22(7.33%)male and 16(5.33%)female strongly agree that the best way to donate blood is paid donation.41(13.67%) male and 48(16%)female agree. 31(10.33%)male and 38(12.67%) female disagree.21(7%) male and 25(8.33%)female strongly disagree. No significant difference were found as shown in figure no.8 ($P>0.05$).

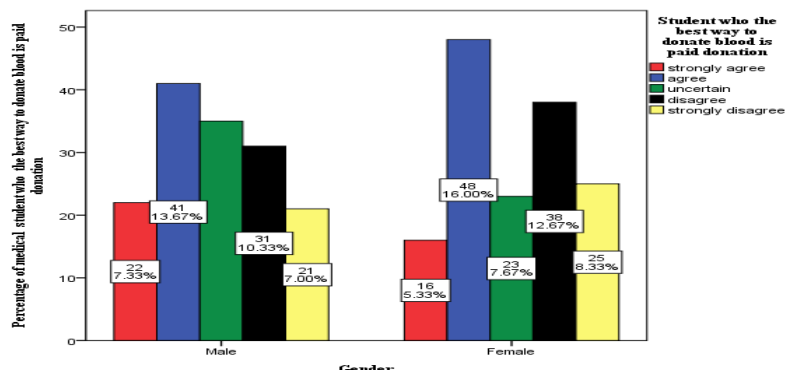


Figure No.8:-Percentage of medical student who the best way to donate blood is paid donation. Values were expressed as frequency percentages no significant difference between male and female($P>0.05$).

I think people who donate blood can pick up disease:-

6(2%) of second year,15(5%) of third year,4(1.33%) of fourth year ,15(5%) of fifth year and 3(1%) of sixth year strongly agree that people who donate blood can pick up disease compared with 13(4.33%) of second year , 23(7.67%) of third year,6(2%) of fourth year ,41(13.67%) of fifth year and 19(6.33%) of sixth year agree and 3(1%) of second year , 8(2.67%) of third year,2(0.67%) of fourth year ,19(6.33%) of fifth year and 18(6%) of sixth year strongly agree ($P<0.001$).

I donate blood to get free investigations:-

Students who think donate blood to get free investigation for the second year 2(0.67%) ,third year 24(8%),fourth year 14(4.67%),fifth year 9(3%) and sixth year 4(1.33%) strongly agree in comparison with second year 2 (0.67%),third year 15(5%),fourth year 14(4.67%) ,fifth year 33(11%) and sixth year 10(3.33%) agree .In addition to that second year 13(4.33%),third year 10 (3.3%),fifth year 21(7%) and sixth year 22(7.33%) uncertain. Second year 1(0.33%),third year 8(2.67%),fourth year 4(1.33%) fifth year 28(9.33%) and sixth year 11(3.67%) disagree ($P < 0.001$).

Practice of blood donation:-

Have you donated before :-

39(13%) of males and 9(3%) of females donate before comparing with only 111(37 %) of males and 141(47%) of females not donate before as shown in figure no.9 ($P < 0.001$).

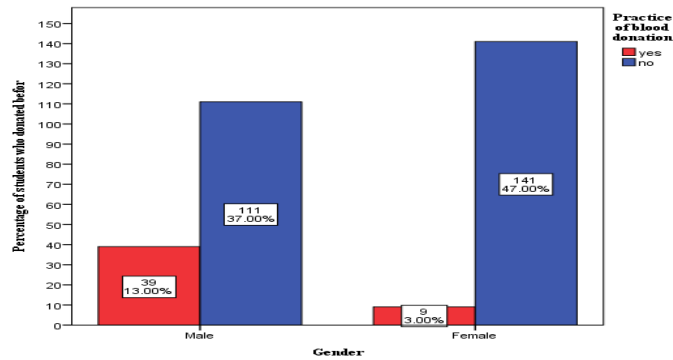


Figure No. 9:-percentage of students who donated before Values were expressed as frequency percentages $P < 0.001$ highly significant difference male from male.

Non donors:-

Reasons for non-donation by non-donors:-

Not satisfied to donate:-

For the second year 3(1%),third year 24(8%),fourth year 13(4.33%),fifth year 39(13%) and sixth year 39(13%) not satisfied to donate in comparison with second year 25(8.33%),third year 44(14.67%),fourth year 19(8.33%),fifth year 71(23.67%) and sixth year 23(7.67%) satisfied to donate as shown in figure no.10($P < 0.001$).

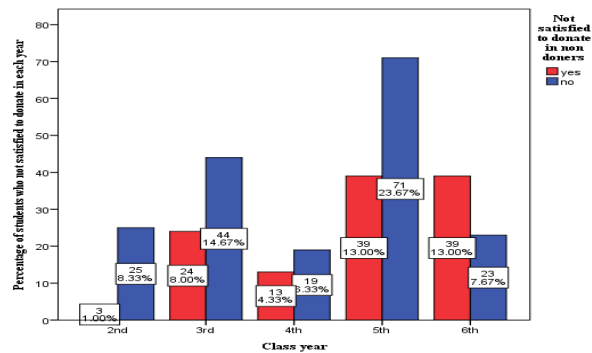


Figure No. 10:-Percentage Of Students Who Not Satisfied To Donate In Each Year Values Were Expressed As Frequency Percentages $P < 0.001$ Highly Significant Difference.

Unfit to donate:-

For the second year 5(1.67%),third year 24(8%),fourth year 10(3.33%),fifth year 38(12.67%) and sixth year 36(12%) unfit to donate in comparison with second year 23(7.67%),third year 44(14.67%),fourth year 22(7.33%),fifth year 72(24%) and sixth year 26(8.67%) fit to donate as shown in figure no.11, no significant difference between classes ($P > 0.05$)

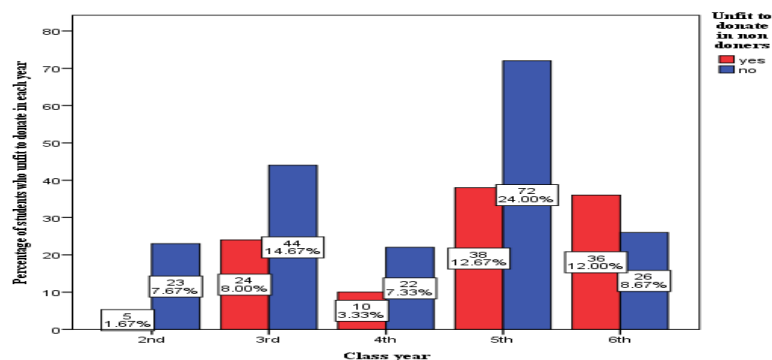


Figure No. 16 :-Percentage Of Students Who Unfit To Donate Values Were Expressed As Frequency Percentages , No Significant Difference Between Classes($P > 0.05$)

No payment:-

78(26%) of males and 38(12.67%) of females not donate because of no payment comparing with only 72(24 %) of males and 112(47%) of females donate as shown in figure no.17 ($P < 0.001$).

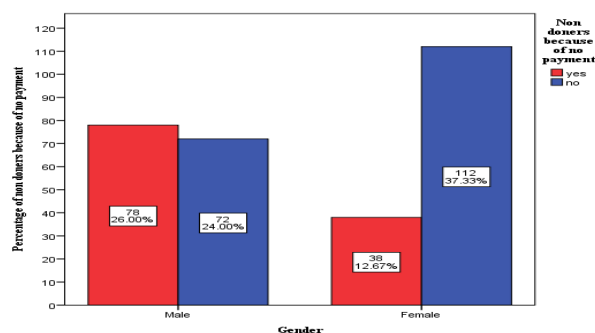


Figure No. 12:-Percentage Of Non-Donors Because Of No Payment Values Were Expressed As Frequency Percentages $P < 0.001$ Highly Significant Difference From Male And Female

Blood transfusion is a key component in modern health care in saving the lives of many people in routine and emergency situations like in gynecological conditions, pregnancy and childbirth, severe childhood illness, trauma and cancers, or medical hematological conditions [9].

The WHO recommends that, for any country to meet the minimum demand for blood, collection should be at least from 1% of the population [10].

Regarding the knowledge of common blood groups among medical student in comparison to age, our result showed that 93 (31.00%) of the participant at the ages 21 to 22, compared with only two (0.07%) at the ages 25-27 ($P < 0.001$).

It has been reported that gender and age are important identifiers of those willing to donate. [11] showed that donors were more likely to be females (77.9%) compared to males (22.1%). This was in harmony with study conducted among 278 medical students of a medical college (HIMS, Barabanki) during the period of March, 2013 to July 2013, found that female participants (57%) were more in comparison to males (43%) [12]. The reasons for the higher percentage of female donors could be due to the willingness of female medical students to help and their enthusiasm to participate in extracurricular projects. In addition, the majority of the donors' age groups were between 21 – 23 years of age (61.8%), in comparison to the (10.3%) which were between 24 – 26 years of age [13].

Regarding the knowledge of HIV disease transmitted by blood transfusion among medical students no significant difference were found among sex, both males (45.33%) and females (45.0%) have the same percentage of

knowledge . While, 37% and 36% of both males and females respectively know the HBV disease transmitted by blood transfusion among medical students. (39.33%) of males participant answered that HCV disease is one the disease that transmitted by blood transfusion compared with (32.0%) of females. [14]reported that levels of knowledge about HIV and blood safety were disappointingly low, with only about half or fewer donors giving the correct responses for most of the questions. [15]recorded that 60% believed blood centers use better HIV tests than other places; however, 42% were unaware of the HIV window period. Approximately 50% believed it was appropriate to donate to be tested for HIV. In addition, in Sudan[16] recorded poor knowledge about HBV transmission and its consequences.

According to attitude toward blood donation in the present study 11% of both sexes strongly agree that young people should donate blood rather than old .49(16.33%) male compared with 51(17%)female agree that young people should donate blood rather than old. Also 40(13.33%) male and 38(12.67%)female think that non paid donate are best for blood donation.while52 (17.33%) male and 61(20.33%) female agree. 32(10.67%) male and 34(11.33%) female uncertain.9(3%) male and 11(3.67%)female disagree.17(5.67%)male and 6(2%) female strongly disagree. This was in agreement with the result found of university students in Kilimanjaro on voluntary blood donation were positive in 94.7% of the university students who participated in the study, 89.3% were willing to voluntarily donate blood to anyone , 94.5% were willing to donate for a relative in need of blood , and 81.4% did not expect reward for blood donation . Willing to donate without knowing the religion of the recipient, suggestion on the voluntary donation to be the best form of blood donation, and considering blood donation as a noble act were not significantly associated with donation practice[17].

The same results found by [11] the majority (58.8%) disagreed while (12.3%) agreed on paying donor as an incentive. they revealed that this might be attributable to the Muslim religion in Saudi Arabia, which urges people to help others without expecting anything in exchange. In contrast to a study conducted in Nigeria that showed about (41.0%) preferred certificates as an incentive for donation, whereas (13.6%) preferred money; and only (2.58%) would donate for nothing [13].

The present study showed that 68% of males thought that people who donate blood can pick up disease compared with 73% of females. In comparison with, [18]found that (33.3%) said blood donation may have adverse effects.

According to the practice of blood donation the present study showed that 39(13%) of males and 9(3%) of females donate before comparing with only 111(37 %) of males and 141(47%) of females not donate before. The presented results revealed that 13% of males donate before comparing with only 3% of females , while, 19.33% of males and 20% of females not satisfied to donate.

This also in agreement with [18] who found 36(24 %) have donated in the past, only 5 (3.3%) were regular blood donors, only 20 (13.3 %) are voluntary, and 16 (10.6%) donated to a friend or relative in need in study carried for 150 medical students at PDU Medical College Rajkot in India.

78(26%) of males and 38(12.67%) of females not donate because of no payment comparing with only 72(24 %) of males and 112(47%) of females donate.

found that (24 %) have donated in the past. while [19] recorded a 41.4% blood donation by physicians, with 39.6% being regular donors and 53.4% of these were voluntary .

Further study needed with large numbers of individual to increase in the level of awareness especially in women and young people about blood donation.

Educational programs on blood donation should be expanded through various media including the Internet to keep the topic of blood donation alive in the minds of the general public and might focus on the benefits and the idea that blood donation does not cause significant health risks.

Conclusion:-

Medical field students have positive perception towards blood donation; however, only few of them have donated. However, the level of awareness in our society was poor which could be due to the lack of knowledge about blood

donation. Public education campaign should be implemented to promote and encourage people to donate blood also to lessen their worries and change their misconceptions.

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