

Original Research Article

Comparison between Blood Group Types between Students of College of Medicine and college of Education in University of Kirkuk

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Abstract: In recent years there is a lot of studies and researches about relation of blood group typing and different types of diseases, psychological connotations and different type of skills, through my marching in teaching practical physiology in college of medicine I note that the % of pupils that caring AB blood group type is more than normal standard average so study done on (924) students of university of Kirkuk in April 2015 to compare blood group type between students college of education (456) and college of medicine (468). The results showed that there is significant difference in blood group type distributions between the two colleges $X^2=12.944$ $df=3$ P value =0.00475, where by using 2X2 Chi square test blood group type AB were significantly higher in college of medicine than college of education, regarding blood group % distribution in both colleges were 42%, 28.2%, 20.8%, 84% for O,A,B,AB respectively which is close to distribution of blood group type in Kurdistan region and Turkey where blood group type A is more prevalence than blood group type B like in the south of Iraq and this is may be due to ethnicities causations.

Keywords: ABO blood group, Blood group distribution, Blood group type.

INTRODUCTION:

The membrane of human red cells contain variety of blood group anti genes, which are also called agglutinogens, the most important and best known of these are A&B antigen, but there are many more [1], A&B antigen are complex oligosaccharide that differ in their terminal sugar, on red cells they are mostly glycosphinlipids, where as in other tissues, they are glycol protein [2]. Type A individuals have the A antigen type B have B type AB have both and type O have neither [1], similar to A,B antigen another type of

antigen are also found present on RBCs, these are called Rh proteins the person which have this Antigen called RH positive [3]. About 15% of Caucasians are RH negative that is they lack the D (RH D) red surface antigen, in other population eg. In Chinese and Bengalis only 1-5% may be RH negative [4]. There is different in incidence of blood type distribution among different population for example.

Distribution of blood group among different population[23]

Country	Blood Groups	O	A	B	AB	Rh ⁺	Rh ⁻
Australia		49	38	10	3	81	19
Denmark		41	44	10	5	84	16
France		42	44	10	4	85	16
Germany		41	43	11	5	85	15
Saudia Arabia		52	26	18	4	92.5	7.5
UK		44	42	16	4	83	17
USA		43	41	10	4	85	15
Nigeria ⁽⁹⁾		53.22	23.73	20.09	3.01	93.8	6.2
Pakistan (Bannu) ⁽¹²⁾		25	31	36	7	67	32
India (Jaunpur) ⁽¹³⁾		30	29	31	8	95	4
India(Pondicherry) ⁽¹⁴⁾		34	39.5	20.5	6.5	93.5	6.5
Iran ⁽¹⁵⁾		37	33.14	23.72	0.7	89.6	10.4
Yemen (hahdramout) ⁽¹⁶⁾		51.5	29.5	16.6	2.3	93	7
Turky		32.4	43.7	16.5	7.43	89	11
China		40.3	26.19	27.14	7.05	99.3	0.69

There is strong evidence to suggest that there is an association between AB blood group and certain criteria like personality [6], intelligence [7], and diseases [8, 9, 10, 11,12], where there is a lot of study showing relation between different diseases and blood groups, locally showed that the level of total cholesterol, glucose and systolic diastolic blood pressure were all higher in male and female patients in blood group O than other blood groups, with a decreasing level from group A to B then AB [8], in the other hand their a study done by a group of researcher in Iran they show that blood group type A has most association with breast cancer [9]. In Baghdad college of science Hasson showed that patient with blood group type O had higher % of the hemodialysis in compare with other blood groups [10].

Manal K abdulqadr found that patients with blood groups Positive were at great risk to upper Gastric and Duodenal Ulcer than other type of blood group [11], also there is a study in India said that there is no relation between blood group type and diabetes mellitus [12].

Aim of the study:

Through teaching practical physiology in college of medicine /Kirkuk university I note that the average of student that carry AB blood type were more than the normal average, so I made comparison of blood group type of this college to another college which is college of education Arabic department to prove this observation and compare it with student of other college.

MATERIAL AND METHODS:

The study was carried out in University of Kirkuk College of medicine and education at April 2015. For study purpose blood group for 924 student were tested including (A, B, AB) blood groups, total

number of student of college of medicine were 468 student (300 female and 168 male) and total number of students college of education were 456 (327 female, 126 male). Due to the nature of the subject matter research statically population include Q square test and % to show the difference in blood group type between the two colleges. Blood were taken from each student using finger prick by using sterile lancet and calculate the incidence of blood group type in both college students by using Anti-A ,B monoclonal Reagent .

RESULTS:

Total number of students of college of medicine was 468 compared with 456 student of college of education the percentage of each blood group type was as in table (1). There are significant different in distribution of blood group types in students of both colleges where Chi square =12.944, DF=3, P=0.004<0.01 as in table (2). By using 2X2 of Chi square Fishers test each blood group type were compared between the two colleges, regarding blood group type A there is no significant different in distribution of this blood group type between the two colleges p= 0.342>0.01 Table (3), it's the same about blood group type B where there is no significant different in distribution of this blood group type between the two colleges Table (4). Results showed that number of students that carry blood group type AB were significantly higher in college of medicine in compare to college of education p value =0.006<0.01 table (5) but in spite of the % of blood group type O were higher in college of education (44.7%) than college of medicine (39.5%) but statistically there is no significant different between the two colleges table (6). By comparing RH type in both colleges there is no significant different between the two colleges table (7). The distribution of blood group type in both colleges were as follow 42%, 28.2% ,20.8%, 84% for O,A,B,AB respectively table (7)

Table-:1 Show the percentage of each blood groups in college of medicine and college of Education.

Type of blood Group	% of Blood group type in college of medicine	% of Blood group type college of education
A	27.5%	26.6%
B	26.9%	20.3%
AB	11.5%	
O	39.5%	44.7%

Table -2: show distribution of blood group types in both colleges by using Chi Square test.

Blood group type	Students of college of medicine	Students college of education	Total	
A	129	135	264	Chi square =12.944, DF=3, P=0.004<0.01
B	100	93	193	
AB	54	24	78	
O	185	204	389	

Table-3: comparison in blood group(type A) between college of Medicine & college of Education.

	Blood group type A	Other Blood Groups(B,AB,O)	Total	
College of medicine	126	342	468	P value=0.34 (NS)
College of education	135	318	453	
	261	660	921	

Table-4: shows the comparison of blood group type B between college of medicine and college of education.

	Blood group type B	Other blood groups	Total	
College of medicine	100	368	468	P value =0.74>0.01 (NS)
College of education	93	363	456	
	193	725	705	

Table -5: show comparison of blood group type AB between college of medicine and college of Education

	Blood group type AB	Other Blood groups	Total	P value =0.006<0.01 By using 2X2 Qsequer test student with blood group type AB were significantly higher in college of medicine in compare with college of education
College of medicine	54	414	468	
College of education	24	432	456	
	78	846	924	

Table -6: show comparison of blood group type O between college of medicine and college of Education

	Blood group type O	Other blood groups	Total	P value =0.11>0.01(NS)
College of medicine	185	283	468	
College of education	204	252	456	
	389	535	924	

Table-7: show comparison of RH System between college of medicine and college of Education

	RH positive	RH negative	Total	P value 0.39>0.01(NS)
College of medicine	447	21	468	
College of education	441	15	456	
	888	38	924	

Table -8: Show the distribution of blood group type in both colleges

Blood group type in both colleges	%
A	28.2
B	20.8
AB	8.4
O	42

DISCUSSION:

Intelligence is not easy to measure, there is a lot of theories and measurement of intelligence, some said that intelligence is heriditical depend on mental processes & same said there is also artificial intelligent which depend on environmental factors and education facilities. In recent years the intelligence classified to several types (Emotional, artificial, social, linguistic and multiple intelligence) [7].

A large number of researches have been conducted about impact of people blood group type on

personality features, in his first research Frovave showed that human blood group is one of the most important determinants of people temperament [13]. In the present study the results showed that there were significant different in distribution of blood group typing between the two colleges , in the study I did not measure the intelligence level for each students in both colleges , but if I considered students of college of medicine smarter than college of education this will go on line with two recent studies done by Atoom 2014 who made a research on students of Jordanian university he found that blood group type AB had a

highest degree in quotient (IQ) test (7), the other study done by Budinar (2011) about different in IQ among Children aged (6-4) years, the study showed that the sample AB excise on all samples in the level of intelligence [14]. But Thomson in (1936) found that there is no relationship between blood group type and intelligence, emotion, idiosyncrasies or personality [15], the reason of this dis agreement may be due to unsophiscated instrument to asses personality or there is undeveloped questioner or theories about personality and intelligence on the another hand there is research done by a group of Iranian researchers about relation between personality and blood group type the study showed that people blood groups has an effect on their group cooperation ,where blood group type A had the greatest tendency to group participation [17].

Regarding blood group distribution the distribution of blood group in both samples (924) student were as in table (6), the most prevalence blood group was blood group O (42%), followed by blood group A 28% and B 20.8 % whereas the last prevalence was AB (8.4%). This result is very close to a study done by M.s Jaff in Kurdistan (north of Iraq) regarding distribution of blood group in kurds [16], also go on with the studies on blood group distribution in Iran [17], while there is similar research done by a group of researchers South of Iraq in 2010 in Missan the distribution of blood group type were as follow) blood group O (35.4 %),blood group B (33.2 %) blood group A (22.5%) and blood group AB (87%)

This distribution is the same in Kuwait [19] Saudi Arabia [20] and Jordon [21] .This Difference between north and south of Iraq explained by Mouhaus 2010 [18] who return this difference to low intermarriage between kurds and Turks people with Arabs since the distribution in Turkey show high % for blood group A rather than B [22].

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