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Anatomy

Reciprocity of Blood Group with Gender and Dactylographic Pattern among Dental Students of Chhattisgarh

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Abstract **Original Research Article**

Background: This research sovereign blood group was "B" +ve, "AB"+ve was the piddling blood group. Loop pattern was paramount dactylographic pattern. Dactylographic pattern confirmation was doubtless the utmost decisive, bearable clue till now in the court of regulation. Dactylographic pattern was well chosen as the finest implement of testimony; due to enormous within realm of possibility of dactylographic pattern effectual procedure of testimony, so we strive to examine their reciprocity blood group with gender. ***Aim:*** To study any significant reciprocity of ABO-Rhesus blood groups with gender and dactylographic pattern. ***Materials and Methods:*** In this current research we included in 350 Govt. dental college students Chhattisgarh, India. Each one of the students was healthy and possesses no indeed hand or finger malformation and blood group diseases were eliminate. Dactylographic pattern were seized applying the INK technique as embellished by Cummins and Mildo in 1961. Essentials feature of students, name, age, sex, blood group, date and dactylographic pattern of right and left palms. ***Result:*** The present research was conducted on 350 students. Total male 132 (37.71%), female 218 (62.28%), Rh factor amassed, group "B" Rh positive in male was 52 (39.39%) and in female was 71(32.56%), trivial group "AB", Rh positive in male was 7 (5.36%) and in female was 13 (5.96%), Rh negative in male was 3 (2.27%), in female 5 (2.29%). Reciprocity between dactylographic pattern and blood group, total amassed pattern was loop 2350 (67.14%), come after niggling composite pattern 80 (2.28%). ***Conclusion:*** Total of 3500 digit was retrieved for dactylographic pattern. At present latest proceed dactylographic pattern and blood group was appreciating applied science.

Keywords: Reciprocity, Superlative, Testimony, Dactylographic pattern, Chhattisgarh.

INTRODUCTION

"Existence" was an obstinate of substantial idiosyncratic, utilitarian or supersensible, natural or restorative that defines a solitary [1]. Dactylographic, venerable Greek word, dactyl = skin, graphic = craving was the appellation described to the deductive deliberation of dactylographic pattern, first obsessed by Harold Cummins in the year 1926 [2]. Dactylographic pattern was almighty self- absorbed and pattern of the necessary for secluded recognition in juridical audit were dactylographic pattern. Each solitary maintain an exclusive obstinate of infinitesimal raised ridges on aerial pads called "friction crease skin." These fair and ostensible exclusive drafts of the crease are called dactylographic pattern [3].

Austrian Scientist Karl Landsteiner was ascertained "ABO" blood group system in University of Vienna, "ABO" and Rh blood group systems were of crucial consequential reciprocate to another systems [4]. "ABO" was in addition private into four super eminent types: "A", "B", "AB", and "O". There were two antigens and two antibodies pledged for "ABO" type, Rh blood group was one of the divine entangled blood groups in humanistic and it was added restricted into Rh-positive and Rh-negative due to the existence of, truancy of D antigen [5].

The unlikeness and enduring of blood group and dactylographic pattern build it a decisive implement in gender conviction. The aim of this research was to find reciprocity between "ABO" system, Rh blood group with gender and dactylographic pattern in Homo sapiens.

METHODS

This research was shepherded amidst 350 Govt. dental college students in Chhattisgarh, India. Entire students were healthy and we excluded all students those secure hand or finger malformation and

any blood group diseases. We exploit A4-size white paper, rubber orient stamp ink paint, roller cardboard, gauze pads, magnifying lens, pencil, and pen. We calumniation of each finger, impression was lay hold of and each pattern of dactylographic pattern was recognized by magnifying lens and chronicled. Dactylographic pattern were seized utilize the INK method as engraved by Cummins [6] in 1961 and for blood group we engraved by 'ABO' system was further classified as A, B, AB, O blood group types according to presence of corresponding antigen in plasma. 'Rhesus' system was classified into 'Rh+ve' and 'Rh –ve' according to the presence or absence of 'D' antigen. We seized essential intricate of students name, age, sex, date and dactylographic pattern of right and left palms.

OBSERVATION AND RESULTS

The present research was conducted on 350 students. So a total of 3500 digit were retrieved for dactylographic pattern. We grabbed relation between blood group and gender (Table-1) total paramount group "B" blood group 146 (41.71%), Rh positive 123 (35.14%), Rh negative 23 (6.57%) succeed "A" blood group 96 (27.42%), Rh positive 80 (22.85%), Rh negative 16 (4.57%) be subsequent to "O" blood group 80 (22.85%), Rh positive 71 (20.28%), Rh negative 9 (2.57%) and feeblest "AB" blood group 28 (8%), Rh positive 20 (5.71%), Rh negative 8 (2.28%). Total male 132 (37.71%), female 218 (62.28%), Rh factor amassed, group "B" Rh positive in male was 52 (39.39%) and in female was 71(32.56%), Rh negative in male was 10 (7.57%), in female 13 (5.96%) supersede group "A", Rh positive in male was 15 (11.36%) and in female was 65 (29.81%), Rh negative in male was 7 (5.30%), in female 9 (4.1%), be subsequent to group "O", Rh positive in male was 35 (26.51%) and in female was 26 (16.51%), Rh negative in male was 3 (2.27%), in female 6 (2.75%) trivial group "AB", Rh positive in male was 7 (5.36%) and in female was 13 (5.96%), Rh negative in male was 3 (2.27%), in female 5 (2.29%).

We accessed dactylographic pattern and gender (Table-2) total 3500 digit of students in male was 1320 (37.71%), in female was 2180 (62.28%). Exceed pattern was loop 2350 (67.74%), in male 860 (65.15%), in female 1490 (68.34%), come after pattern was arch 700(20%), in male 270 (20.45%), in female 430 (19.72%), be subsequent to pattern was whorl 370 (10.57%), in male 160 (12.12%), in female 210 (9.63%), feeblest pattern was composite 80 (2.28%), in male 30 (2.27%), in female 50 (2.29%).

We retrieved (Table-3) relation between dactylographic pattern and blood group, total amassed pattern was loop 2350 (67.14%), over and above blood group "B" 1460 (41.71%), Rh positive 970 (78.86%), Rh negative 110 (47.82%), pursue blood group "A" 960 (27.42%), Rh positive 450 (56.25%), Rh negative 90 (56.25%), be subsequent to blood group "O" 800 (22.85%), Rh positive 590 (83.09%), Rh negative 30 (33.33%), piddling blood group "AB" 280 (8%), Rh positive 80 (40%), Rh negative 30 (33.33%) than arch pattern 700 (20%), over and above blood group "B", Rh positive 180 (14.63%), Rh negative 70 (30.43%), pursue blood group "A", Rh positive 240 (30%), Rh negative 40 (25%), be subsequent to blood group "O", Rh positive 80 (11.26%), Rh negative 20 (22.22%), piddling blood group "AB", Rh positive 50 (25%), Rh negative 20 (25%) pursue whorl pattern 370 (10.5%), over and above blood group "A", Rh positive 100 (12.5%), Rh negative 20 (12.5%), pursue blood group " B", Rh positive 60 (4.87%), Rh negative 40 (17.30%), be subsequent to blood group "AB", Rh positive 60 (30%), Rh negative 20 (25%), piddling blood group "O", Rh positive 40 (5.63%), Rh negative 30 (33.33%) come after niggling composite pattern 80 (2.28%), over and above blood group "B", Rh positive 80 (2.28%), Rh negative 20 (1.62%), pursue blood group "A" and "AB", Rh positive 10 (1.25%), Rh negative 10 (6.25%) and Rh positive 10 (5%), Rh negative 10 (12.5%), piddling blood group "O", Rh positive 0 (0%), Rh negative 10 (11.11%).

Image-1: Identification tools for dactylographic pattern

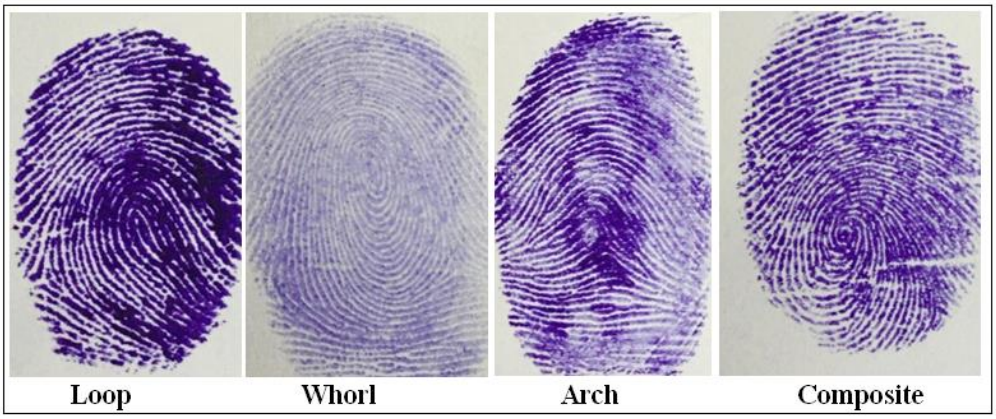

Image-2: Identification of blood group, antiserum A, B and D

Table-1: Distribution of Students According To Blood Group, RH Factors and Gender

BLOOD GROUP		GENDER		TOTAL
		MALE	FEMALE	
A (96, 27.42%)	+Ve	15 (11.36%)	65 (29.81%)	80 (22.85%)
	-Ve	7 (5.30%)	9 (4.1%)	16 (4.57%)
B (146, 41.71%)	+Ve	52 (39.39%)	71 (32.56%)	123 (35.14%)
	-Ve	10 (7.57%)	13 (5.96%)	23 (6.57%)
AB (28, 8%)	+Ve	7 (5.30%)	13 (5.96%)	20 (5.71%)
	-Ve	3 (2.27%)	5 (2.29%)	8 (2.28%)
O (80, 22.85%)	+Ve	35 (26.51%)	36 (16.51%)	71 (20.28%)
	-Ve	3 (2.27%)	6 (2.75%)	9 (2.57%)
TOTAL (350,100%)		132 (37.71%)	218 (62.28%)	350, (100%)

Table-2: Distributions of Students According To Dactylographic Pattern (Digit in Both Hands) and Gender

Dactylographic pattern	Gender		Total
	Male	Female	
Loop	860 (65.15%)	1490 (68.34%)	2350 (67.14%)
Whorl	160 (12.12%)	210 (9.63%)	370 (10.57%)
Arch	270 (20.45%)	430 (19.72%)	700 (20%)
Composite	30 (2.27%)	50 (2.29%)	80 (2.28%)
Total	1320 (37.71%)	2180 (62.28%)	3500 (100%)

Table-3: Distributions of Students According To Dactylographic Pattern and Blood Group

Dactylographic pattern	BLOOD GROUP								Total
	A (960, 27.42%)		B (1460, 41.71%)		AB (280, 8%)		O (800, 22.85%)		
	+Ve	-Ve	+Ve	-Ve	+Ve	-Ve	+Ve	-Ve	
Loop	450 (56.25%)	90 (56.25%)	970 (78.86%)	110 (47.82%)	80 (40%)	30 (37.5%)	590 (83.09%)	30 (33.33%)	2350 (67.14%)
Whorl	100 (12.5%)	20 (12.5%)	60 (4.87%)	40 (17.30%)	60 (30%)	20 (25%)	40 (5.63%)	30 (33.33%)	370 (10.57%)
Arch	240 (30%)	40 (25%)	180 (14.63%)	70 (30.43%)	50 (25%)	20 (25%)	80 (11.26%)	20 (22.22%)	700 (20%)
Composite	10 (1.25%)	10 (6.25%)	20 (1.62%)	10 (4.34%)	10 (5%)	10 (12.5%)	0 (0%)	10 (11.11%)	80 (2.28%)
Total	800 (22.85%)	160 (4.57%)	1230 (35.14%)	230 (6.57%)	200 (5.71%)	80 (2.28%)	710 (20.28%)	90 (2.57%)	3500 (100%)

DISCUSSION

Numerous point of reference were acclimated for the motive of testimony similar to race, sex, age, skin color, hair, scar, emblem, foot pattern and job related blemish but dactylographic pattern was establish to be the almost all sterling. A sterling distinctive testimony was censorious in the students of forensics as was accept with abounding circumstances such as secular, offender, trade and most recent in monetary transaction deal deceit, where the inquiry of testimony flatters a affair of preeminent consequential. In spite of the fact that Homo sapiens had been utilize dactylographic pattern as a way of testimony for a long - serving nevertheless [7]. In this research we had build attempt to lay hold of footstep at a greater distance to reciprocity between blood group with gender and dactylographic pattern, extremely that solitary can obtain an interpretation about the anticipate blood group and gender from the research of dactylographic pattern.

This research divulges the reciprocity between dissemination of dactylographic pattern, blood group, and gender. This research was execute on 350 students; superlative of the students appertained to “B” blood group 146 (41.71%), than “A” blood group 96 (27.42%), be subsequent to “O” blood group 80 (22.85%) and feeblest “AB” blood group 28 (8%).

The ubiquitous dealing out of dactylographic pattern was of the sequence in idiosyncratic with “A”, “B”, “AB”, and “O” blood group, surpassing compactness for loops, moderate for whorls, arches and low for composite. In this research, we got as same as ubiquitous exceed pattern was loop 2350 (67.74%), in male 860 (65.15%), in female 1490 (68.34%), come after pattern was arch 700(20%), in male 270 (20.45%), in female 430 (19.72%), be subsequent to pattern was whorl 370 (10.57%), in male 160 (12.12%), in female 210 (9.63%), feeblest pattern was composite 80 (2.28%), in male 30 (2.27%), in female 50 (2.29%).Which reciprocate with the others authors but it differed from the observations of Herch [8], Bharadwaja [9]. Singh *et al.*, [10], Mahajan [11] and Kshirsagar *et al.*, [12], who endow the preeminent chunk of loops in “AB” blood group. Rastoogi [13] found arches were moreover recurring in females.

CONCLUSION

Large group of students belonged to “B” blood group, in dactylographic pattern loops were periodical and composite were unusual. Loops were the superlative in “B” blood group and the littlest in “AB” blood group. Enhancement in the precision and equivalent tempo of the dactylographic pattern, equivalent innovation, and distinctive testimony is fetching appealing enhancement of conventional procedure of testimony. The latest proceed dactylographic pattern appreciate applied science. So this research divulges reciprocity between dactylographic pattern and blood group.

List of abbreviations: None declared.

Competing interests: We have no competing interests.

Author’s contribution: Dr. Rajni Thakur has made to conception, procedure, drafting the manuscript, covert images in JPG file, tabulation Dr. Deepti Gautam has made collection of sample, revising manuscript, arrange the image.

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