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"A STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE TOWARDS GENETIC TESTING AMONG THE NEWLY MARRIED COUPLES IN SELECTED URBAN AREAS OF SANGLI MIRAJ KUPWAD CORPORATION AREA".

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OBJECTIVES

1. To assess the knowledge among the newly married couples regarding genetic testing.
2. To assess the attitude among the newly married couples regarding genetic testing.
3. To Find out association between knowledge and attitude scores with the selected demographic variables.
4. To find out the correlation between knowledge and attitude regarding genetic testing.

KEYWORDS: Assess, Knowledge.

INTRODUCTION

Genetic abnormalities are disease that are not acquired or caused from infection or trauma, but rather children inherit the gene from their parent. It could be congenital, if the disease appears at birth immediately but sometime, if they have gene, the disease will develop later on.[14]

More than 2 billion people of various religious and ethnic backgrounds, live in countries, where a large proportion of marriages are contracted between blood relative.[15]

Many studies in Egypt have show the roughly 30% of abdomen and about 40-50% of death occurring in pediatric hospital are accounted for by children with genetic disorder or congenital malformations (Gomaa, 2007). As well EI-Sobkey (2007) mentioned that consanguineous marriage in widely favored in large majority of the Egyptian population. Estimates of consanguinity ratio in different part of Egypt rated from 29-50%. The highest

incidence was that in the rural area. First cousin marriage occurred more often than the other types of consanguinity.[16]

Approximately 4 million babies are born each year. About 3%-4% will be born with a genetic disease or major birth defect. Approximately 1% of all babies will be born with chromosomal abnormality, which can cause physical problems and mental problem retardation more than 20% of infant deaths are caused by birth defects or genetic condition (e.g congenital heart defects, abnormalities). Approximately 10%of all adult and 30%of children in hospital are due to genetically related problems. High rates of consanguinity were found in autosomal. There was no increased in autosomal dominant, x linked or chromosomal disorders. The high consanguinity rate reported of certain genetic disease, mainly autosomal recessive and polygenic disorder.[15]

Genetic disorders are transmitted from parent to the offspring through a specific patter of inheritance exemplified by recessive genetic disorder. These disease include the sickle cell gene, thalassemia, the hemophilia, inborn error of metabolism and red cell enzymopaties.[17]

According to centre for disease control the percentage of global prevalence of consanguinity among developed countries like America, Europe, and Australia is less than 1% on the other side developing countries including India about 20-50%studies shows that higher rates of rare autosomal recessive disorder in linked to high consanguinity rate in developing countries. Studies shows that in India very large number infant with genetic disorder are born every year's, almost half of million with malformation and 21,000 with Down syndrome.[18]

One of the most important aspect of prevention program for genetic disorder is to have a well informed and educated population. Saudi Arabia, the united Arab Emirats and Bahrain have introduced genetic information, particularly on haemoglobinopathies, to the public through health worker and primary health care centre and through the media, but no studies have measured the effect of such programmes.[19]

Genetic testing is a type of medical test that identifies changes in chromosomes, genes, or proteins. The results of a genetic test can confirm or rule out a suspected genetic condition or help determine a person's chance of developing or passing on a genetic disorder. It also helps in Finding out if people carry a gene for a disease and might pass it on to their children screening embryos for disease testing for genetic diseases in adults before they cause

symptoms. Over 2000 tests are currently in use, and more are being developed. Several methods can be used for genetic testing: Molecular genetic (gene tests) are tests that study single genes or short lengths of DNA to identify variations or mutations that lead to a genetic disorder. Chromosomal genetic tests analyse whole chromosomes or long lengths of DNA to see if there are large genetic changes, such as an extra copy of a chromosome, that cause a genetic condition. Biochemical genetic tests study the amount or activity level of proteins; abnormalities in either can indicate changes to the DNA that result in a genetic disorder. Genetic testing is voluntary. Because testing has benefits as well as limitations and risks, the decision about whether to be tested is a personal and complex one. Genetic tests are tests done on blood and other tissue to find genetic disorder, Doctors use genetic tests for several reasons. These include. Finding genetic diseases in unborn babies. Making a diagnosis in a person who has disease symptoms. Figuring out the type or dose of a medicine that is best for a certain person People have many different reasons for being tested or not being tested. For some, it is important to know whether a disease can be prevented or treated if a test is positive. In some cases, there is no treatment. But test results might help a person make life decisions, such as family planning or insurance coverage.[20]

In India it is important to prevent birth of a child with a malformation or a genetic disease thus reducing the socio-economic burden of a handicapped child. Moreover if the normality of a foetus is ensured, it is likely that the parents will limit the number of pregnancies, so that they will more readily accept family planning measures. Common genetic disorders in Indian population are chromosomal disorders such as Down syndrome, Thalassemia, Haemophilia and Duchenne muscular dystrophy. There is no definitive treatment for Down syndrome and Duchenne muscular dystrophy while the treatment for thalassemia and haemophilia are very expensive. Fortunately the new genetic technologies provide methods for the prenatal diagnosis of these disorders thus preventing birth of affected children and reducing the burden on the family and the society. These genetic technologies are extremely cost effective when weighed against the cost of treatment of affected children lasting many years. Keeping these points in view, research areas include molecular basis of fragile X syndrome with emphasis on identification of premutation carrier females because they have a variable risk for ovarian dysfunction and also are at a high risk of producing affected offspring with fragile X syndrome and Changes in the genome have also been established.[21]

In the Indian scenario, having a baby is a life changing experience for the couple. Unfortunately one in six pregnancy is been aborted, leaving the couple psychologically and emotionally drained and attaching a social stigma to their lives. Various genetic factors are known to be associated with recurrent spontaneous abortion (RSA) including single gene mutations, polygenic and cytogenetic causes. study of 1000 individuals of Indian origin with 3 or more abortions was included. And the Literature survey suggests a 0.3-0.5 percent abnormal cells and so patients showing more than 0.5 percent abnormality were considered to be contributing abnormal gametes which might be major cause for abortions. Perceived genetic knowledge, attitudes towards genetic testing, and the relationship between these among patients with a chronic disease.[22]

The study examined the genetic knowledge and attitudes of patients with chronic diseases, and the relationship between both. In addition, patients were asked about their preferred source of genetic information. Methods used was Questionnaires were mailed to participants of a nationwide representative sample of patients with chronic diseases in the Netherlands (n = 1916). The Results were the response rate was 82% (n = 1496). Perceived genetic knowledge was low, particularly among older and lower educated patients. Attitudes towards genetics were rather positive, especially among younger and higher educated patients. Some concerns were also documented, mainly about the consequences of genetic testing for employment and taking insurance. Patients who perceived to have little knowledge found it difficult to formulate an opinion about genetic testing. Higher levels of genetic knowledge were associated with a more favourable attitude towards genetics. Chronic patients prefer to receive genetic information from their GP. The study Concluded that Chronic patients are ill prepared when they require genetic knowledge to make decisions regarding the treatment of their disease.[4]

OBJECTIVES

5. To assess the knowledge among the newly married couples regarding genetic testing.
6. To assess the attitude among the newly married couples regarding genetic testing.
7. To Find out association between knowledge and attitude scores with the selected demographic variables.
8. To find out the correlation between knowledge and attitude regarding genetic testing.

MATERIALS AND METHODS

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SETTING

The study was conducted in selected in selected community areas of Sangli Miraj Kupwad Co-operation areas. The rationales to select these areas was because these areas are convenient to the investigator. The investigator is familiar with all above settings, familiar with geographical proximity, economy, easy transport faciities, administrative approval and cooperation., the pilot study was conducted in Kupwad, where as the main study was conducted in the sangalwadi area.

POPULATION

The population of the present study compromises of newly married couples. The investigator addressed these couples from the selected settings of the community area.

SAMPLE SIZE

150 newly married couples were selected as the sample for the study. and the sample size which was been calculated by using power analysis method.

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SAMPLING TECHNIQUE

Non probability purposive sampling is used in this study the sample size was 150 newly married couples.

RESULTS AND DISCUSSION

TABLE NO. 1: DISTRIBUTION OF DEMOGRAPHIC VARIABLES n=300.

DEMOGRAPHIC VARIABLES	Frequency	Percentage %
1)SEX:		
Female	150	50
Male	150	50
2)AGE IN YEARS:		
18 – 24	57	18.9
24-29	177	58.6
30-36	65	21.5
ABOVE 36	3	1
3)PREGNANT:		
YES	02	0.2
NO	148	99.8
4)EDUCATION:		
PRIMARY	116	38.4
HIGHER SECONDARY	104	34.4
DEGREE	82	27.2

TABLE NO 1. Shows That Age Group of 24yrs-28yrs Are in Large Group. Only Two Females Were Pregnant Among The Samples.

TABLE NO. 2: DISTRIBUTION OF DEMOGRAPHIC VARIABLES n=300.

DEMOGRAPHIC VARIABLES	Frequency	Percentage %
5.CONSANGUNITY MARRAIGE		
WITHIN BLOOD RELATION	32	5.2
NOT IN BLOOD RELATION	268	94.8
6)RELIGION:		
CHRISTAIN	56	18.6
HINDU	200	72.6
JAIN	8	3.2
MUSLIM	34	5.6
7)HISTORY OF CONGENITAL DISEASE:		
YES -	4	0.3
NO -	296	99.7
8)PREVIOUS INFORMATION		
RECEIVED	134	31.6
NOT RECEIVED	166	68.4

TABLE NO. 2: Showed that 5.2% belonged to consanguinity marriage group. 72.6% belonged to Hindu religion. 0.3% were having congenital disease and 68.4% had not received any previous information regarding genetic testing.

SECTION II: Analysis of data related to knowledge regarding genetic testing among the newly married couples.

Knowledge score in frequency and percentage.

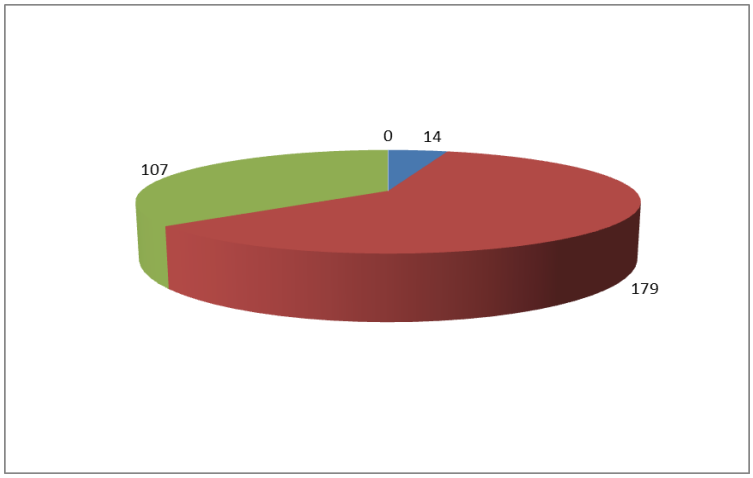

Figure no. 2: Showed that 59.6% of people come under the average knowledge regarding genetic testing, where as 35.8% have good knowledge and only 4.6% of the samples have poor knowledge.

SECTION III: Analysis of the data related to the attitude score regarding genetic testing among the newly married couples.

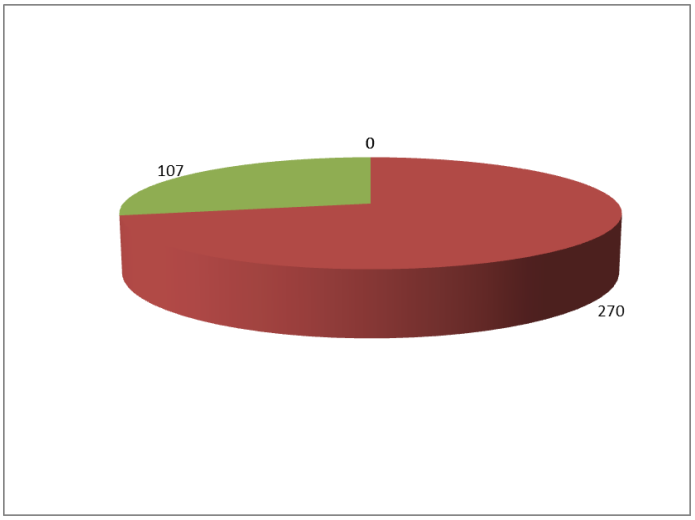

Fig no. 2: Attitude score in frequency and percentage.

Attitude score in frequency and percentage n=300

The data presented in fig no 3 showed that majority (89.7%) of the people have positive attitude regarding genetic testing.

SECTION IV: Association of knowledge and attitude score with selected demographic variables.

TABLE 3: Association of knowledge and attitude score the with demographic variables. n=300

	KNOWLEDGE			ATTITUDE		
DEMOGRAP HIC VARIABLES	**Fisher's Exact Test**	**P-VALUE**	**REMARK**	**Fisher's Exact Test**	**P-VALUE**	**REMARK**
1)AGE	11.97	0.046	SIGNIFICANT	2.32	0.51	NOT SIGNIFICANT
	Pearson Chi-Square					
2) SEX	3.27	0.19	NOT SIGNIFICANT	0.036	0.85	NOT SIGNIFICANT
3) CONSANGUNITY MARRIAGE	0.87	0.64	NOT SIGNIFICANT	0.09	0.76	NOT SIGNIFICANT
4) RELIGION	3.91	0.68	NOT SIGNIFICANT	2.40	0.49	NOT SIGNIFICANT

Table no. 3: Showed that the Age is only one demographic variable which is associated with the knowledge score. Knowledge is significantly dependent on age. With increasing age, knowledge is also increased.

SECTION V: Analysis of correlation with knowledge score and attitude score regarding genetic testing among the newly married couples.

TABLE NO: 4 correlation of knowledge and attitude score n=300.

Attitude	**Knowledge**			**Pearson Correlation**	**p value**
	Poor	Average	Good		
Negative attitude	3	17	11	0.047	0.411
	9.70%	54.80%	35.50%		
Positive attitude	11	163	97		
	4.10%	60.10%	35.80%		

Table no. 4: showed that There is low degree positively correlation between knowledge and attitude as the Pearson correlation value is less than 0.05.

SECTION VI: Analysis of co-relation of male and female for knowledge and attitude score n=300

	Knowledge Total		Attitude Total	
SEX	M	F	M	F
Mean	6.46	6.75	36.07	37.15
Std. Deviation	1.893	1.669	5.479	5.804
Std. Error Mean	0.154	0.136	0.446	0.472
t	-1.451		-1.672	
p value	0.148		0.096	

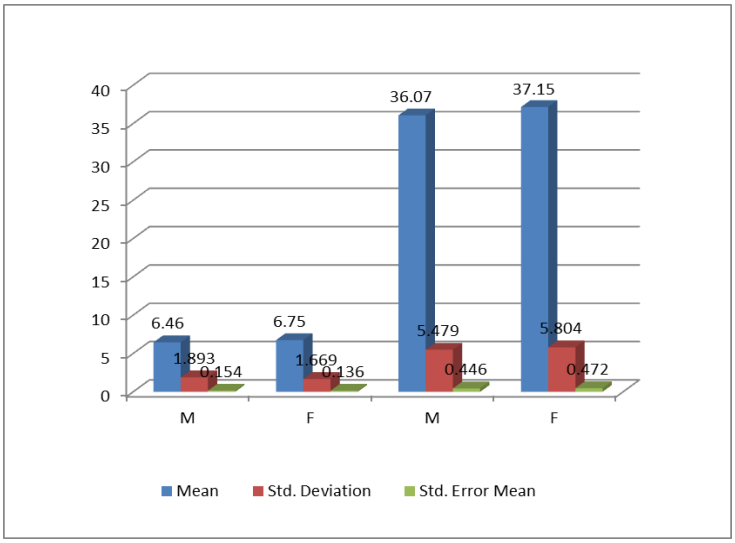

Figure No. 4: Analysis of co-relation of male and female for knowledge and attitude score.

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REFERENCE LIST

1. Odelola, J. O., Adisa, O., Akintaro, O. A, journal of research in education and society, published on 3 dec 2011; 2: 108-115.
2. Mitra Moodi, Mohammad-Reza Miri, and Gholam Reza Sharifirad journal of education and health promotion. (hhJ Educ Health Promot.) Published online 2013 Sep 30. PMCID: PMC3826018, 2013; 2: 52.
3. Henneman L. Timmermans D.R.M. Van der Wal G. Department of Social Medicine, Institute for Research in Extramural Medicine, VU University Medical Center, Amsterdam, The Netherlands.public health genomics, October 2004, 2004; 7(1): 33-43.
4. Morren, M., rijken, baanders, A.N. bensing, PEC (patients education and counseling) journal, feb 2007; 65(2): 197–204.
5. Shaw, alison / hurs jane A, LIVIVO (ZB MED search portal for life science) Published on 2009-04; 14(2): (s) 205–224. www.livivo.de.
6. Omar A Al-Farsi, Yahya M Al-Farsi, Ishita Gupta, Allal Ouhtit, Khalil S Al-Farsi, and Samir Al-Adawi, PuBMeD, BMC Public health, 2014; 14: 380. Published online on 2014 Apr 17.www.ncbi.nlm.nih.gov/articles/PMC.
7. Wong M.L, Chia K.S, Wee S, Chia S.E, Lee J, Koh W.P, Shen H.M, Thumboo J, Sofjan D. Public health genomics /karger- medical and scientific publisher, oct 2004; 33-44.www.karger.com
8. Jader LN, Langdon NP, Smith RJ. Survey of attitudes of pregnant women towards Down syndrome screening [serial online]. 2000 [cited 2000 January]; 20(1): 23-29. Available from: URL:http:// www.ncbi.nlm.nih.gov/ pubmed/ 1070146.
9. Dewanwala A, Chittenden A, Rosenblatt M, Meraldo R et al. Attitude towards childbearing and prenatal testing in individuals undergoing genetic testing for lynch syndrome [serial online]. 2011 [cited 2011 September]; 10(3): 549-556. Available from: URL:http:// www.ncbi.nim.nih.gov/ pubmed/21567236.
10. Jason s. carroll, William j. doherly journal of family relation feb 2004; 52(2): 105-118.
11. Hardman, H. A way to natural child birth, Baltimore; The William and William co, 1948; 70 -74.
12. Abdel Meguid, N, Zaki, M. and Hammad, S. Premarital Genetic Investigation; Effect of Genetic Counseling, Eastern Mediterranean Health Journal, 2005; 4(6): 653-659.

13. Antley, R and Hartlage, D. The Effects of Genetic Counseling for Down Syndrome. Pediatric Journal Research, 2004; 7(8): 336-339.
14. Al-Arrayed SS, Haites N. Features of Sickle-cell Disease in Bahrain. Eastern
15. Mediterranean Health Journal, 1995; 1(1): 112-9.
16. Normal Pregnancy [serial online]. 2012 [cited 2012 December 1]; Available from: URL: http://en.wikipedia.org/wiki/pregnancy.
17. Knowledge on genetic testing [serial online]. 2012 [cited 2012]; Available from: URL:who.int/genomics/elsi/genetesting/en/index.htm.
18. Hietala M, Hakonen A, Aro AR, Niemela P et al. Attitude towards genetic testing among the general population and relatives of patients with a severe Genetic Disease: A survey from Finland [serial online]. 1994 november 8 [cited 1995 February 22]; 56(6): 1493-1500. Available from: URL: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC18.
19. Holtzam NA. Promoting safe and effective genetic testing in the United States[serial online]. 1997 [cited, 1997, September]; Availablefrom: URL:http://biotech.law.isu.edu/research/fed/tfgt.
20. Verma IC. Burden of genetic disorders in India [serial online]. 2001 [cited 2001 January]; 68(1): 25. Available from: URL: http;//www. ncbi.nlm.nih.gov/ pubmed/11262988.
21. Arab suffers from high rate of gene disorder[serial online] 2009 [cited 2010 november2]; Available from:URL:http://www.alarabiya.net/articles/2009/09/22/85765.htm.
22. NIH, U.S National library of medicine genetics home reference published on 31/01/2017, https://ghr.nlm.nih.gov/primer/testing/genetictesting.
23. icmr.nic.in/annual/.../11%20Chapter%207%20Genetic%20Disorders.
24. 22 icmr.nic.in/annual/nirrh/2003-04/ch%207%20Genetic%20Disorders.pdf
25. WHO Secretariat Report. Thalassemia and other hemoglobinopathies. Provisional agenda item 5.2, EB 118(5). Geneva*:* World Health Organization 2006.