ASSESSING THE LEVEL OF KNOWLEDGE REGARDING GENETIC DISORDERS AMONG NURSING STUDENTS OF SELECTED COLLEGE OF NURSING AT BATHINDA IN PUNJAB

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ABSTRACT

A genetic disorder is a genetic problem caused by one or more abnormalities formed in the genetic make-up of an individual. The term genetics was first used by English Biologist William Bateson in 1905. It has been derived from the Greek word 'gene' meaning 'to emerge as' or 'to develop.' *The present study performed was to assess the level of knowledge regarding genetic disorders among nursing students. Objectives under this study were: To assess the level of knowledge regarding genetic disorders among BSc Nursing students and to find out the association between knowledge regarding genetic disorders and their selected socio-demographic variables. A descriptive research design was adopted for the study. Population for the study undertaken was BSc Nursing 3rd year students. Total sample size selected was 80 students by using non-probability purposive sampling technique. The results of the study revealed that 44 students (55% of the sample size) had moderately adequate knowledge, 16 (20%) had adequate knowledge and 20 (25%) had inadequate knowledge. No association was found between knowledge scores and their selected socio-demographic variables.*

Keywords: Knowledge regarding Genetic Disorder, Nursing Students.

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INTRODUCTION

The word genetics was coined by English Biologist William Bateson in 1905. It has been derived from the Greek word 'gene' meaning 'to emerge as' or 'to develop.[1] The word refers to the science of heredity concerned with the study of genes and genetic variation as derived from the Greek word 'genesis' meaning "origin." There may be excessive occurrence and incidence of genetic disorders in India because of its huge population, excessive birth rate and consanguineous marriage. An estimated 4,95,000 infants with congenital malformations, 3,90,000 with Glucose-6-Phosphate Dehydrogenase deficiency, 21400 with Down syndrome, 9000 with β thalassemia, 9760 with amino acid problems and 5200 with sickle cellular disorder are born every year. Because of inadequate diagnostic management and rehabilitation centres, the load of these problems is additional in India than in western international locations. [2]

The genes are carried on structures known as chromosomes which might be accountable for the development of inherited characters. The chromosomes exist in cell nucleus in pairs and contain hundreds to thousands of genes. Genes are precise sequences of nucleotides on chromosomes that encode specific proteins, which express within the shape of some precise characteristic of the body. Genes are the segments of DNA i.e Deoxy-ribonucleic acid. Thus, the genes are carried on structures known as chromosomes which might be accountable for the development of inherited characters. Each gene in a couple has the equal ordinary feature, but there might be one of a kind version of that gene on every chromosome.[3]

Genes are the constructing blocks of heredity. They are passed from one generation to another generation. They preserve DNA, the instructions for making proteins. Proteins do most of the work in cells. They move molecules from one place to every other, construct systems, destroy down toxins and do many different preservation jobs. Sometimes there's a mutation, a change in a gene or genes. The mutation changes the gene's commands for making a protein, so the protein does not work properly or is lacking totally. This will cause a clinical situation known as a genetic disorder.[4]

Alterations within the constitution of the human genome, made of anticipated 25,000-30,000 genes, can motivate a diffusion of genetic diseases with various outcomes and specific heredity patterns. These may also fall into following major classes which include single-gene disease, chromosome ailment, multifactorial disorder and mitochondrial disorder. For more than 1,000,000 live births, there are more than five percentages of humans under one of the above stated classes.[5]

The evaluation of human DNA, RNA, chromosomes, protein and positive metabolites is a way to stumble on heritable ailment-related genotypes, mutations, phenotypes or karyotypes for clinical purposes. Such functions encompass predicting, chance of sickness, identifying carriers, organising prenatal and scientific diagnosis or diagnosis. Genetic testing identifies adjustments in chromosomes, genes or proteins. Genetic checks are accomplished on a pattern of blood, hair, pores and skin, amniotic fluid or different tissues. The sample is despatched to a laboratory in which technicians look for precise adjustments in chromosomes, DNA, proteins depending on the suspected disorder.[6]

PROBLEM STATEMENT

A descriptive study to assess the level of knowledge regarding genetic disorders among BSc Nursing students in selected College of Nursing at Bathinda in Punjab

OBJECTIVES

1. To assess the level of knowledge regarding genetic disorders among BSc Nursing students.
2. To find out the association between knowledge regarding genetic disorders and their selected socio-demographic variables.

METHODS AND MATERIALS

Research approach: Quantitative research approach was adopted for this study.

Research design: The research design used for this study was descriptive research design.

Research setting: The study was conducted in College of Nursing, Adesh University, Bathinda.

Population: Population for the study taken was B.Sc Nursing 3rd year students.

Sample size: Total sample size was 80 students.

Sampling technique: Sample was selected by using non-probability purposive sampling technique.

Criteria for Sample Selection —

Inclusive criteria:

1. Students who were willing to participate in the study.
2. Students who were available and cooperative at the time of data collection.

Exclusive criteria:

1. Students who were on leave and sick during the time of data collection.

DEVELOPMENT OF TOOL

Section - I: It included socio-demographic variables such as Age (in years), Gender, Religion, Sources of information, history of consanguineous marriage of parents and previous family history of genetic disorders.

Section - II: Structured knowledge questionnaire to assess the level of knowledge regarding genetic disorders among nursing students. There were 30 knowledge questions; each question had multiple choice responses. Each correct answer was given a score of one and wrong answer zero. The maximum score were 30. To interpret level of knowledge the scores were distributed as follows:

Scoring key for knowledge questionnaire

Q. Nos.	Maximum score	Minimum score
1-30	30	0

Knowledge score

Level of knowledge	Score	Percentage
Adequate	21-30	66.68-100
Moderately adequate	11-20	33.34-66.67
Inadequate	0-10	0-33.33

Section - I

TABLE - I

Frequency and Percentage distribution of socio-demographic variables of B.Sc (Nursing) students

N=80

Sl. No.	Socio-demographic variables		n	%
1.	Age (in years)	21	20	25.00
		22	50	62.50
		23	10	12.50
2.	Gender	Male	22	27.50
		Female	58	72.50
3.	Religion	Sikh	30	37.50
		Hindu	15	18.75
		Muslim	33	41.25
		Christian	02	2.50
4.	Sources of information	Health professionals	50	62.50
		Print media	20	25.00
		Friends/ Family members	0	0
		Mass media	10	12.50
5.	History of consanguineous marriage of parents	Yes	33	41.25
		No	47	58.75
6.	Previous family history of genetic disorders	Yes	35	43.75
		No	45	56.25

Analysis:

Section - II

OBJECTIVE 1 — To assess the level of knowledge regarding genetic disorders among B.Sc Nursing students

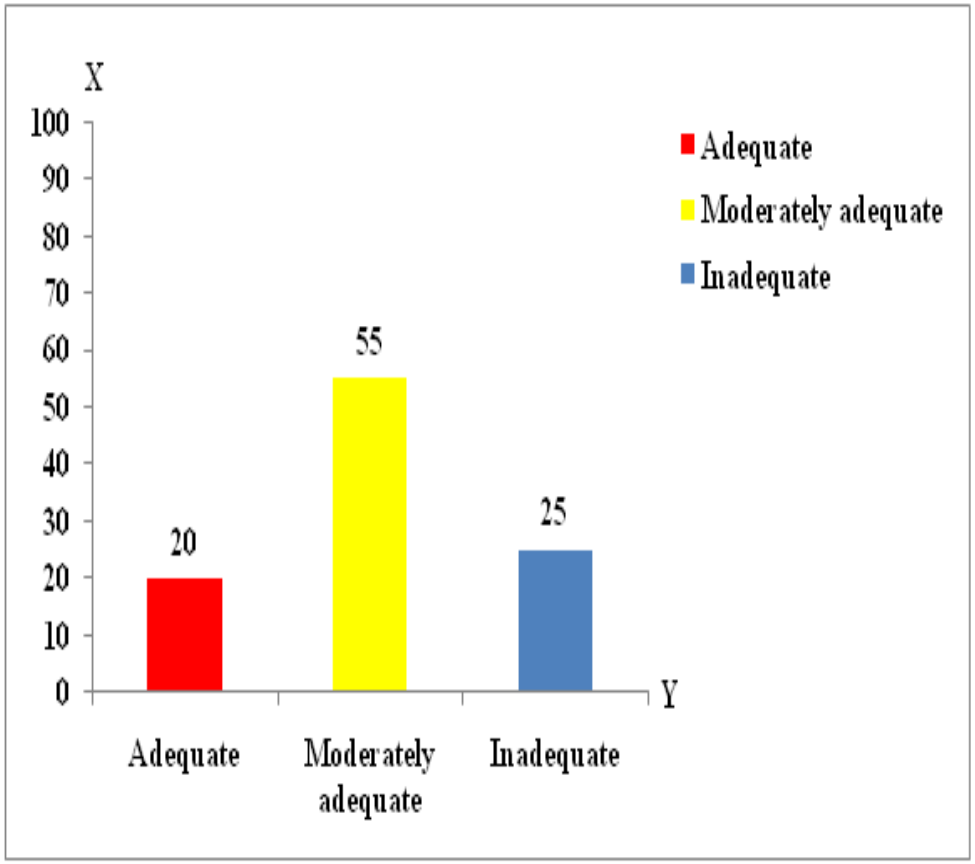
TABLE - II

Frequency and Percentage distribution of level of knowledge regarding genetic disorders among B.Sc Nursing students.

N=80

Level of knowledge	f	Percentage (%)
Adequate	16	20
Moderately adequate	44	55
Inadequate	20	25

Table – II depicts that of the selected nursing students 44 (55%) had moderately adequate knowledge, 16 (20%) had adequate knowledge and 20 (25%) had inadequate knowledge.



OBJECTIVE 2 — To find out the association between knowledge regarding genetic disorders and their selected socio-demographic variables

TABLE - III

Association between knowledge regarding genetic disorders and their selected socio - demographic variables

N=80

Serial No.	Demographic variables		Genetic disorders						χ^2	df	p-value
			Adequate		Moderately adequate		Inadequate				
			f	%	f	%	f	%			
1.	**Age (in years):**	1	4	5.00	10	12.50	6	7.50	3.9891	4	0.4074 **NS**
		2	9	11.25	27	33.75	14	17.50			
		3	3	3.75	7	8.75	0	0			
2.	**Gender**	Male	2	2.50	14	17.50	6	7.50	2.2799	2	0.3197 **NS**
		Female	14	17.50	30	37.50	14	17.50			
3.	**Religion**	Sikh	5	6.25	15	18.75	10	12.50	0.8791	2	0.6443 **NS**
		Hindu	5	6.25	7	8.75	3	3.75			
		Muslim	4	5.00	22	27.50	7	8.75			
		Christian	1	1.25	1	1.25	0	0			
4.	**Source of Information**	Health professionals	12	15.00	28	35.00	10	12.50	4.6591	4	0.3240 **NS**
		Print media	3	3.75	12	15.00	5	6.25			
		Friends/ Family members	0	0	0	0	0	0			
		Mass media	1	1.25	4	5.00	5	6.25			
5.	**History of consanguineous marriage of parents**	Yes	9	11.25	19	23.75	5	6.25	3.7325	2	0.1546 **NS**
		No	7	8.75	25	31.25	15	18.75			
6.	**Previous family history of genetic disorders**	Yes	8	10.00	21	26.25	6	7.50	2.0733	2	0.3545 **NS**
		No	8	10.00	23	28.75	14	17.50			

There was no significant association between knowledge and socio-demographic variables at $p<0.05$.

DISCUSSION

1. **The first objective was to assess the knowledge regarding genetic disorders among B.Sc (Nursing) students.** This study showed that 44 students (55%) had moderately adequate knowledge, 16 (20%) had adequate knowledge and 20 (25%) had inadequate knowledge. The findings were analogous to the study (**Pandya, Arpan)**[7] to assess the level of knowledge of final year B.Sc. nursing students regarding genetics and its importance in nursing care. The results showed that majority of the participants were having average knowledge regarding genetics and its importance in nursing care.
2. **The second objective was to find out the association between knowledge regarding genetic disorders and their selected socio-demographic variables.** The findings of present study revealed that socio-demographic variables

such as age, gender, religion, source of information**,** history of consanguineous marriage of parents and previous family history of genetic disorders had showed no significant association with the level of knowledge regarding genetic disorders. The findings conducted by (**Pandya, Arpan)**[1] showed that knowledge scores of nursing students regarding genetic disorders had significant association with a demographic variable like gender but had no significant association with age and religion.

CONCLUSION

A study was conducted to assess the level of knowledge regarding genetic disorders among nursing students. 80 B.Sc nursing 3rd year students participated in this study. The findings of the study revealed that 44 nursing students (55%) had moderately adequate knowledge, 16 (20%) had adequate knowledge and 20 (25%) had inadequate knowledge. So, the study infers that there is a need for better awareness regarding genetic disorders.

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