

# Graduate Students' Perceived Genetic Knowledge: A Preliminary Study

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**Purpose:** Summary of preliminary assessment of advanced degree students' from the City University of New York [CUNY] knowledge about genomics. 37 graduate students, 7 in DNP program, surveyed with the online Genetics and Genomics Literacy Assessment [GGLA]

**Method:** Data coded and entered into SPSS database. Results analyzed using descriptive statistical techniques to summarize categorical data. Data distribution performed using frequency distribution of participant correct responses and percentages of those responses.

**Clinical Relevance:** Nurse educators need to be able to integrate genetic/genomic competencies into nursing curricula and reinforce the content to ensure nursing students are able to retain and utilize this knowledge when in practice.

**Results:** Summary revealed that majority for 7 of survey questions answered correctly [greater than 60%] while 8 questions had significantly lower correct percentages [55% or less]

Majority [> 75%] of students' **attitude** is that it is important for nurses and nurse educators to know this content and to be able to teach this material

Majority [> 75%] were **not comfortable** with teaching or explaining this material

GGLA Online Survey	APRN N=31	Mean/SD	DNP N=5	Mean/SD
Allele	1 (54.84%)	1.94/0.91	2 (40%)	2.00/1.10
Phenotypic polymorphisms	23 (74.19%)	1.52/1.01	5 (100%)	1.00/0.00
Reciprocal translocation	4 (12.9%)	3.29/1.17	5 (100%)	4.00/0.00
Autosomal recessive	8 (26.6%)	2.67/1.04	2 (40%)	2.20/1.47
Somatic cell mutation	22 (70.97%)	2.74/0.84	1 (20%)	1.60/0.80
Genetic testing	4 (12.9%)	2.35/1.23	0 (0%)	2.40/0.80
X-linked recessive	17 (54.84%)	2.10/1.30	1 (20%)	3.40/1.20
BRCA1 allele	29 (93.55%)	3.90/0.39	4 (80%)	3.80/0.40
Carrier testing	28 (93.55%)	2.90/0.40	5 (100%)	3.00/0.00
GINA/Health Insurance	28 (93.55%)	3.07/.025	5 (100%)	3.00/0.00
Pregnancy DNA mutations	10 (34.48%)	2.41/1.10	4 (80%)	1.40/0.80
Patient history	29 (93.55%)	2.06/0.25	4 (80%)	2.20/0.40
Pedigree symbol	24 (80%)	2.70/.064	2 (40%)	2.80/0.75
Penetrance	15 (48.39%)	3.26/0.88	4 (80%)	3.60/0.80
Interpreting pedigree	4 (12.9%)	2.35/0.86	2 (40%)	2.00/0.89

## Comfort/Attitude/Perceptions

How comfortable are you in collecting a patient's family history, drawing a 3-generation pedigree and analyzing that pedigree?

SOMEWHAT/NOT COMFORTABLE = 21 APRN/4 DNP

How comfortable are you in sharing your knowledge of genetics/genomics in the clinical setting?

SOMEWHAT/NOT COMFORTABLE = 21 APRN/3 DNP

How comfortable are you in requesting more education about genetic diseases and genetic counseling? SOMEWHAT/NOT COMFORTABLE = 11 APRN/2 DNP

How comfortable are you in explaining the Mendelian inheritance patterns to patients (autosomal dominant; autosomal recessive; X-linked disorders; Mitochondrial)? SOMEWHAT/NOT COMFORTABLE = 22 APRN/4 DNP

How comfortable are you in teaching the concepts of genetics/genomics to fellow nurses?

SOMEWHAT/NOT COMFORTABLE = 21 APRN/5 DNP

Genetics/genomics important for a nurse to know AGREE= 31 APRN/5 DNP

Preparing nurses to use genetics/genomics is an important role of nurse educators AGREE= 30 APRN/5 DNP

Teaching nurses genetics/genomics important to keep nurses as a central partner in patient/family care AGREE= 31 APRN/5 DNP

A family history assessment with genetics/genomics content (i.e.: pedigree, 3 generations, age at diagnosis) have little value for patient care AGREE= 29 APRN/5 DNP

The clinical environment (i.e.: hospital setting; clinical setting; hospital administration) is motivating me to learn more about genetics/genomics AGREE= 4 APRN/2 DNP

Taking a genetics/genomics course would help me to fully integrate this content AGREE= 15 APRN/5 DNP

The importance of nurses to advocate for patients and society regarding ethical and legal issues about genetics/genomics AGREE= 31 APRN/5 DNP