ISCC Project Group Project: Genetics Education in Women's Health

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Agenda

- Introductions
- The need
- Background
- Curriculum
- Results
- Future work to be done

Introductions

The need

- Knowledge of human genetics is increasing dramatically and OB/GYNs are often called upon to incorporate genomics and genetic testing into medical practice

- Data has shown that OB/GYNs are undertrained in their residency and even subspecialty rotations in genetics and genomics

Background - Existing Resource Challenges

- Curriculum development based on single specialty (CREOG guidelines)
- Pre and post test available but lacking validation
- Commitment to update and alter format and content not systematic

Will this be adequate for the OBGYN residency graduates in 2020 ?

- NO
  - ACOG has supplemental genetics training available with an excellent list of lectures
    - Requires an 8 hr onsite course, plus a concluding 3 hr on site course
    - Requires additional attendance at annual meeting session
    - Completion of on-line modules
    - Cost

Genetics training OBGYN residency does not align with real–life OBGYN practice

- Primary care provider across women's reproductive lifespan
  - Preconception, prenatal and cancer (not just breast) genetic screening
- New genetic tests are continually being developed
  - Inability to assess test marketing claims
  - Inability to present reports to patients
  - Inability to communicate with other specialties (pathology, pediatrics, internal medicine)
- Genetic counselors are a limited resource

Progress Thu Far

- Genetic learning objectives were made from Bruce Korf's work and the group
- Survey developed and distributed to # of the OB/GYN interest group
- 27 people completed the survey.
- Small number of people from the OB/Gyn interest group went thru the survey and identified the curriculum items to be included using the dephi method

Case Demonstration

- Show case

Categories of the Survey

- The categories are:
- Basic Genetics and Genomics Principles
- Teratology Principles
- Clinical Care- General
- Ethical, Legal and Social Issues
- Clinical Care- Obstetric Specific
- Clinical Care- Gynecological Specific
- Unconscious Bias and Health Literacy
- Rating of numerous websites to be considered for the curriculum

Table 1: Participant demographics (N=27)	
Characteristic	**N (%)**
Role	
Genetic Counselor	9 (33.3)
Physician: Geneticist	8 (29.6)
Physician: OBGYN	6 (22)
Physician: Family Practice	1 (3.7)
Physician Assistant	1 (2.7)
Other	2 (7.4)
Years in practice	
0-5	12 (44.4)
6-10	7 (25.9)
11-15	2 (7.4)
16-20	3 (11.1)
21+	3 (11.1)
Participated in a genetics course in the last 5 years	
Yes	24 (88.9)
No	3 (11.1)
Involved in teaching genetics	
Yes	25 (92.6)
No	2 (7.4)
Participated as a learner in a genetics course in the last 5 years	
Yes	20 (74.1)
No	7 (25.9)

- Share table 2 (CVI 5,6)

- Share table 3

- Share table 4
- Share list of online resources

Table 5: Median resource score *(1-5 scale, 5 is the most important)*	
Resource	**Median Rating (IQR)**
GeneReviews	5.0 (5.0-5.0)
ClinicalTrials.gov	5.0 (4.0-5.0)
OMIM	5.0 (3.0-5.0)
Genetics home reference	4.0 (4.0-5.0)
ClinGen	4.0 (3.0-5.0)
Genetic Testing registry	4.0 (3.0-5.0)
ClinVar	4.0 (3.0-4.0)
Jackson Laboratory CKB	3.5 (2.0-4.0)
Stanford Decision Tool for Women with BRCA Mutations	3.0 (3.0-4.0)
KM Plotter for breast cancer	3.0 (2.0-4.0)
COSMIC	3.0 (2.0-4.0)
Mycancergenome	3.0 (2.0-4.0)
genomeAD	3.0 (2.0-4.0)
OncoKB	2.5 (1.5-3.5)
PolyPhen	2.0 (2.0-3.0)
Integrative genomics viewer (IGV)	2.0 (2.0-3.0)
CIVic	2.0 (1.0-3.0)
cBioPortal	2.0 (1.0-3.0)

General Categories

- Aneuploidy screening (cfDNA that we did)
- Reproductive genetic carrier screening
- Fetal anomaly genetic evaluation
- Cancer- breast and gyn
- Mendelian disorders and family hx concerns
- Polygenic disorders
- Teratogenicity, genetics or both

Volunteers?

- Any group members interested in a particular area?
- Goal to write a case for each area and identify which curricula items it covers