Family History of Colorectal Cancer: Results from the 2008 Oregon Behavioral Risk Factor Surveillance System (BRFSS)

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BACKGROUND

- Individuals with a family history of colorectal cancer (CRC) are at increased risk of developing CRC.
- Early detection of CRC among high risk individuals can reduce the burden of CRC.

OBJECTIVE

- To describe the relationship between **family history status** and the development of **CRC** among the population of **Oregonians**.

Our program focuses on the translation of genomics applications into health practice through a CDC-funded surveillance program to monitor the use of **cancer-specific evidence-based** genomic tests and **family history** in Oregon.

STUDY DESIGN

- Data from the **2008 Oregon Behavioral Risk Factor Surveillance System** (BRFSS) (N=1904) were used to assess the proportion of Oregonians who has a positive family history of CRC.
- For the purposes of this study, a "positive family history" is defined as having at least one first degree relative (parent, sibling or child) diagnosed with CRC.

RESULTS

- Over **seven percent** of Oregonians reported having a **positive family history of CRC**. Of those with a positive family history, 6.9% had two or more first degree relatives who were diagnosed with CRC.
- A **positive family history of CRC** was associated with a **five-fold increase** in the **prevalence of CRC** (2.8%; 95% CI, 1.0%-8.0%), compared with having a negative family history (0.5%; 95% CI, 0.3%-1.0%) (P=0.003). (Figure 1)
- There was a **positive association** between the proportion of Oregonians with a family history of **CRC and age** (P=0.01) (Figure 2).
- The association between age and being diagnosed with CRC was not statistically significant (P=0.0650), probably because among those surveyed, the number diagnosed with CRC was very small (total for all ages = 17) (Figure 2).
- **More male first degree relatives** were diagnosed with CRC than female relatives. Among those with a positive family history, 54.4% reported that their father had CRC, and 33.4% reported that their mother had CRC. (Figure 3).

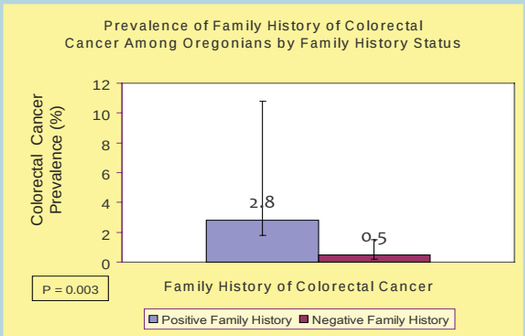

Figure 1

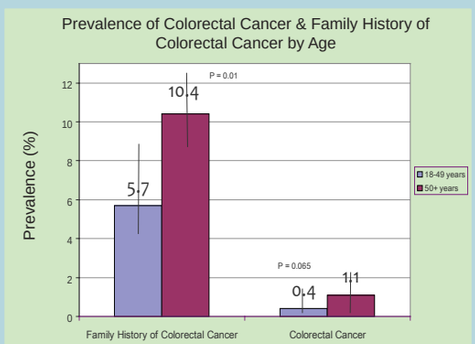

Figure 2

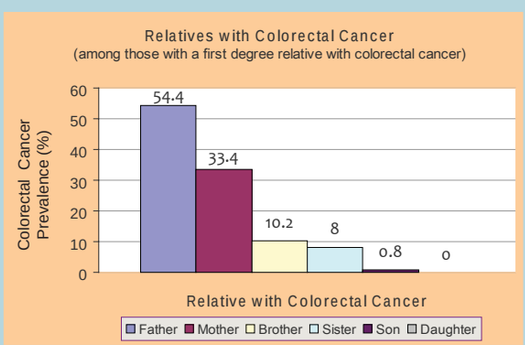

Figure 3

CONCLUSIONS

- The Oregon BRFSS data are consistent with other data showing that a **positive family history** is correlated with **increased prevalence of CRC**.

COMMENT

- Although the US Preventive Services Task Force (USPSTF) does not include family history as a screening criterion for CRC, other clinical guidelines, such as those from the National Comprehensive Cancer Network (NCCN), state that family history is the most important risk factor for CRC and advocate for earlier screening for individuals with a positive family history.

ACKNOWLEDGEMENT

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REFERENCES

1. Brenner H, Hoffmeister M, Haug U. Family history and age at initiation of colorectal cancer screening. Am J Gastroenterol 2008;103:2326-31.
2. Engstrom P. Update: NCCN colon cancer Clinical Practice Guidelines. J Natl Compr Canc Netw 2005;3 Suppl 1:S25-8.
3. Griffith KA, McGuire DB, Royak-Schaler R, Plowden KO, Steinberger EK. Influence of family history and preventive health behaviors on colorectal cancer screening in African Americans. Cancer 2008;113:276-85.
4. Newcomb PA, Baron J, Cotterchio M, et al. Colon Cancer Family Registry: an international resource for studies of the genetic epidemiology of colon cancer. Cancer Epidemiol Biomarkers Prev 2007;16:2331-43.
5. Noe M, Schroy P, Demierre MF, Babayan R, Geller AC. Increased cancer risk for individuals with a family history of prostate cancer, colorectal cancer, and melanoma and their associated screening recommendations and practices. Cancer Causes Control 2008;19:1-12.
6. Petersen GM. Genetic epidemiology of colorectal cancer. Eur J Cancer 1995;31A:1047-50.
7. Presciuttini S, Strigini P. Genetic epidemiology of colorectal cancer. Tumori 1996;82:107-13.
8. Rees G, Martin PR, Macrae FA. Screening participation in individuals with a family history of colorectal cancer: a review. Eur J Cancer Care (Engl) 2008;17:221-32.
9. Tytherleigh MG, Ng VV, Mathew LO, et al. Colonoscopy for screening and follow up of patients with a family history of colorectal cancer. Colorectal Dis 2008;10:506-11.
10. NCI (2009, June 6, 2009). Genetics of Colorectal Cancer Retrieved September 29, 2009, from *http://www.cancer.gov/cancertopics/pdq/genetics/colorectal/HealthProfessional/326.cdr#Section_326*