

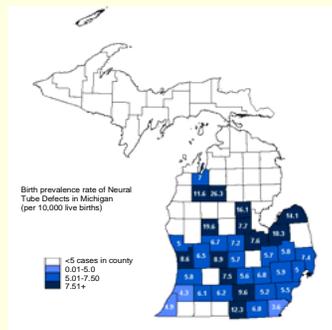
Folic Acid Outreach and Two Years' Multivitamin Distribution in Selected Michigan Counties at High Risk for Neural Tube Defects

Michigan Department of Community Health

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BACKGROUND

Neural Tube Defects (NTDs) are serious birth defects of the spinal cord and brain. The occurrence of a NTD in a newborn is reported to the Michigan Birth Defects Registry (MBDR)¹. Per MBDR reporting (1995-2003), the state birth prevalence is 5.8 NTDs per 10,000 live births (~1,000 cases).



- Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) Survey² shows 29% of Michigan women age 18-45 years consume a multivitamin daily.
- National average of 33% daily multivitamin consumption per March of Dimes Gallup Poll in 2005.³
- Many Michigan counties have a NTD rate higher than the state average.

PURPOSE

Increase awareness and consumption of folic acid among non-pregnant women of childbearing age by providing folic acid education and free multivitamins with folic acid in selected high NTD-rate Michigan counties.

TARGET

Using MBDR data, Michigan counties with high rates of NTDs were identified and selected for outreach: Mecosta, Jackson, and Kent (Yr 01), plus Branch, Hillsdale, Ionia, Oceana, Ottawa, and St. Joseph (Yr 02). The target population was women of childbearing age receiving services at clinic sites within high-rate counties.

METHODS

Staff training

- August to September 2005 (Yr 01) and April to June 2006 (Yr 02)
- Offered to participating Women, Infants, and Children (WIC), Planned Parenthood, and other clinic staff
- Educational materials supplied
- Pretests and posttests administered
- Assured consistency in staff knowledge of purpose, protocol and delivery of folic acid message

Multivitamin distribution

- September to December 2005 (Yr 01) and January to December 2006 (Yr 02)
- Clients received free, three-month supply of multivitamins containing 400 mcg folic acid
- All recipients received one-on-one counseling about folic acid, educational materials and vitamin information sheets
- Informed consent obtained for follow-up

Follow-up survey

- December 2005 to March 2006 (Yr 01) and September to December 2006 (Yr 02)
- Brief telephone survey (8 items) administered to 199 vitamin recipients in Year 01 and 200 recipients in Year 02
- Assessed vitamin usage, perceived benefits and barriers to taking a daily multivitamin

RESULTS

Staff training

- Staff were from 4 Planned Parenthood and 2 WIC agencies
- Trainees included Dietitians, Nutritionists, Registered Nurses, Nurse Practitioners, Social Workers, and Medical Assistants
- Pretests (n=34) and Posttests (n=35) containing 16 items to test folic acid knowledge were administered
- Results showed increase in knowledge

Multivitamin distribution

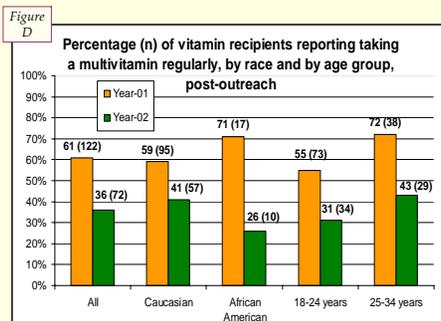
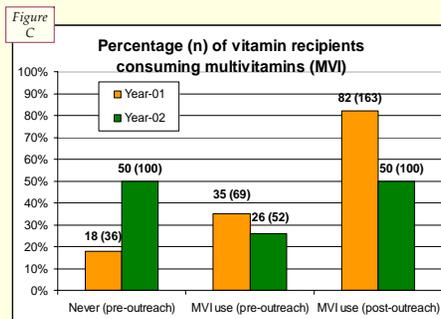
- Distribution of more than 5,000 bottles of multivitamins was achieved by participating clinics
- Most recipients surveyed (75.9%; n=303) received multivitamins at a Planned Parenthood clinic
- In Year 01, young women (under 18 years) were excluded; revised protocol for Year 02 permitted outreach to younger women receiving services

Follow-up survey

- Survey collection required 6:1 attempts per completed survey

Demographics

- Majority of surveys completed by women age 18-24 years (Figure A)
- Survey population diverse; majority were Caucasian (Figure B)
- An effort was made in Year 02 to increase the numbers of minority women surveyed

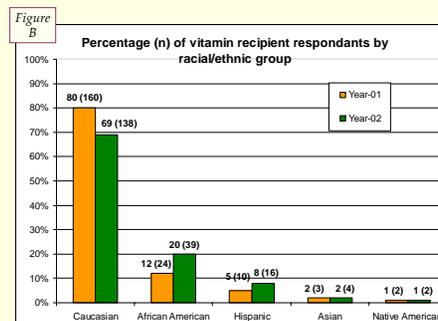
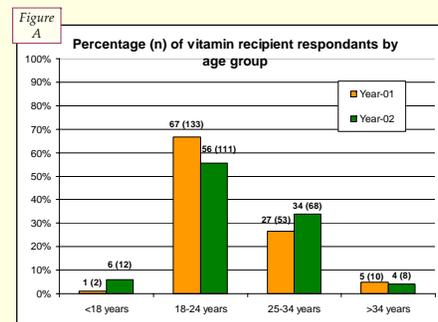


FUTURE DIRECTIONS

- For 2007, enhanced outreach to higher risk populations, i.e., Hispanics, having a 1.5 to 2 fold elevated risk for NTD

REFERENCES

- Michigan Birth Defects Registry: www.mdch.state.mi.us/pba/osr/index.asp
- Michigan Pregnancy Risk Assessment Monitoring System: www.michigan.gov/PRAMS
- Gallup Organization. Folic acid and the prevention of birth defects: a national survey of pre-pregnancy awareness and behavior among women of childbearing age 1995-2005. March of Dimes Birth Defects Foundation. September 2005; publication 31-1998-05



Follow-up survey (cont.)

- Pre-outreach, more recipients surveyed in Yr 02 (50.0% vs 18.1%) had never taken multivitamins (Figure C)
- Pre-outreach, fewer recipients in Yr 02 (26.0% vs. 34.7%) reported taking multivitamins
- Post-outreach, multivitamin use increased in Yr 01 & Yr 02
- Increase in multivitamin use was greater among Yr 01 recipients
- Increase in multivitamin use varied by age, race/ethnicity (Figure D)
- Taking a multivitamin daily was reported by more respondents in Yr 01 (47.7%, n=95) than Yr 02 (30.5%, n=61)
- More than half recalled that folic acid prevents birth defects (Yr 01 & Yr 02)
- Most recipients recalled being given written materials (about 90% in Yr 01 & Yr 02)

CONCLUSIONS

- Ongoing education of health providers is needed to address continuing gaps in knowledge and awareness of the benefits of folic acid
- Providing multivitamins as part of routine healthcare for women of childbearing age appears to be an effective method for increasing vitamin usage in this high-risk population
- One-on-one education given by a trained health care provider reinforces positive health behaviors

PUBLIC HEALTH IMPLICATIONS

- Free vitamin distribution combined with one-on-one education is one effective strategy for increasing folic acid awareness and utilization in low-income Michigan women
- Increasing public awareness of additional health benefits of folic acid (indicated by 44% of our survey population) is another important message that may boost folic acid consumption

Funded by a
Community Grant

