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

Michigan Department of Community Health

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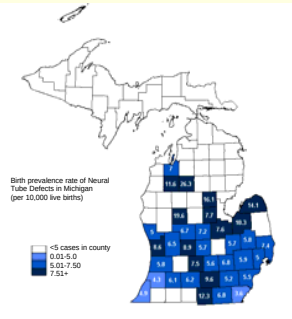
BACKGROUND

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).
- Many Michigan counties have a NTD rate higher than the state average.
- Prevention of up to 70 percent of NTDs can be accomplished by daily consumption of 400 mcg folic acid before conception and very early in pregnancy.
- Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) Survey[2] shows 29% of Michigan women age 18-45 years consume a multivitamin daily.
- National average of 33% daily multivitamin consumption reported by the March of Dimes Gallup Poll in 2005[3].

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.

METHODS

Using MBDR data, Michigan counties with high rates of NTDs were identified and three were selected for outreach: Mecosta, Jackson, and Kent.

Staff training

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

Target population

- Non-pregnant women of childbearing age, 18 years or older receiving services at clinic site

Multivitamin distribution

- September to December 2005
- 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
- Brief telephone survey (8 items) administered to 199 vitamin recipients
- 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 increases in knowledge in all but one parameter (Figures A & B)

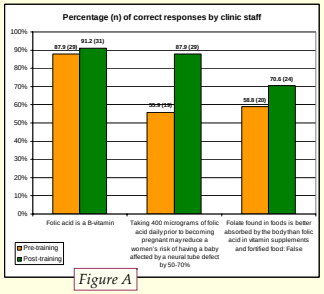


Figure A

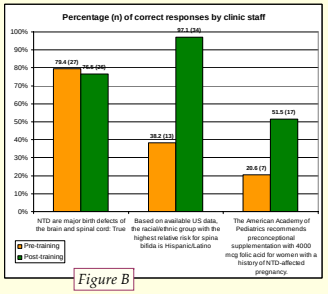


Figure B

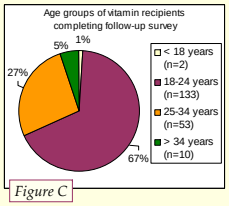


Figure C

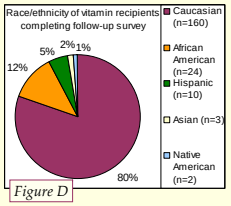


Figure D

Multivitamin distribution

- Distribution to more than 1,000 recipients
- Most (70%; n=140) received multivitamins at a Planned Parenthood clinic

Follow-up survey

- Survey collection required 6:1 attempts per completed survey
- Majority of surveys completed by women age 18-24 years (Figure C)*
- Survey population diverse; majority were Caucasian (Figure D)
- Pre-outreach, 18.1% of recipients had *never* taken multivitamins

Follow-up survey (cont.)

- Large increase in multivitamin use reported post-outreach (Figure E)
- More than half (61.3%; n=122) reported taking a multivitamin regularly (>5 days per week); by race, African Americans had the highest percentage of utilization; by age, 25-34 year-olds had the highest utilization rate (Figure F)

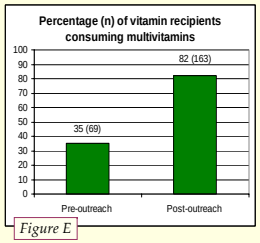


Figure E

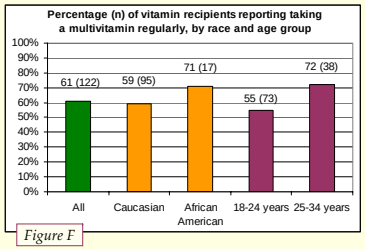


Figure F

- Nearly half (47.7%; n=95) took their multivitamin daily
- About two thirds (64.3%; n=128) recalled that folic acid prevents birth defects
- Most recipients recalled being given written materials
- More than half would be *likely* or *very likely* to buy the next bottle of multivitamins

** Follow-up with clinic staff needed to assure adherence to project protocol, e.g., to outreach clients 18 years and over*

CONCLUSIONS

- There is a need for ongoing education of health providers 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 target 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

FUTURE DIRECTIONS

- In 2006, outreach is expanded to Branch, Hillsdale, Ionia, Oceana, Ottawa, and St. Joseph Counties
- In 2006, protocol is revised to outreach young women, less than 18 years of age receiving services from partner agencies
- For 2007, enhanced outreach to higher risk populations, i.e., Hispanics, having a 1.5 to 2 fold elevated risk for NTD, is proposed

ACKNOWLEDGEMENTS

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March of Dimes — Saving babies, together

REFERENCES

1. Michigan Birth Defects Registry: www.mdch.state.mi.us/pha/osr/index.asp
2. Michigan Pregnancy Risk Assessment Monitoring System: www.michigan.gov/PRAMS
3. 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