

2009

Using Motivational Interviewing in Public Health Practice to Prevent Fetal Alcohol Syndrome

Lisa J. Ficker
Wayne State University

Cheryl Lauber
Michigan Department of Community Health

Sandra L. King
Detroit Department of Health and Wellness Promotion

Jewell Akins
Detroit Department of Health and Wellness Promotion

Dranoel Knox
Detroit Department of Health and Wellness Promotion

See next page for additional authors

Follow this and additional works at: <http://scholarworks.gvsu.edu/mjph>

 Part of the [Public Health Commons](#)

Recommended Citation

Ficker, Lisa J.; Lauber, Cheryl; King, Sandra L.; Akins, Jewell; Knox, Dranoel; and Ridella, William (2009) "Using Motivational Interviewing in Public Health Practice to Prevent Fetal Alcohol Syndrome," *Michigan Journal of Public Health*: Vol. 3 : Iss. 2 , Article 5. Available at: <http://scholarworks.gvsu.edu/mjph/vol3/iss2/5>

This Article is brought to you for free and open access by ScholarWorks@GVSU. It has been accepted for inclusion in Michigan Journal of Public Health by an authorized editor of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.

Using Motivational Interviewing in Public Health Practice to Prevent Fetal Alcohol Syndrome

Authors

Lisa J. Ficker, Cheryl Lauber, Sandra L. King, Jewell Akins, Dranoel Knox, and William Ridella

RESEARCH AND PRACTICE

Using Motivational Interviewing in Public Health Practice to Prevent Fetal Alcohol Syndrome

Lisa J. Ficker
Wayne State University

Cheryl Lauber
Michigan Department of Community Health

Sandra L. King, Jewell Akins, Dranoel Knox, and William Ridella
Detroit Department of Health and Wellness Promotion

ABSTRACT:

Background: Surveys of women in prenatal care at busy clinics in Detroit, Michigan have reported 12.5% continue to drink during pregnancy (Flynn et al, 2003) and women in substance abuse treatment programs in Wayne County, MI have an incidence rate for Fetal Alcohol Syndrome (FAS) of 4 in 1,000 births, double the national prevalence rate of FAS. The goal of the current study was to intervene with women at high risk for an alcohol-exposed pregnancy using techniques of Brief Motivational Interviewing (BMI) in a verbal and written format.

Methods: One third (33%) of 1,784 women screened at Detroit Department of Health and Wellness Promotion (DHWP) primary health care clinics and HIV/AIDS-STD clinic were found to be at risk of an alcohol exposed pregnancy defined as binge drinking (at least 4 drinks per occasion) or heavy drinking (8 or more drinks per week) in the last three months, while they were having sex with inconsistent or no contraception. This intervention utilized Brief Motivational Interviewing (BMI) and developed written materials based on the principles of BMI to 1) assess readiness for change, 2) strengthen motivation to change, and 3) provide an individualized change plan. For women who received the Individual Level Intervention (n = 77), four sessions of BMI were conducted (two in-person, two via telephone) over a six-month period. A Self-Guided Change version of the intervention (Community Level Intervention) was offered for women (n = 327) who preferred to utilize the materials at home and receive two follow-up telephone calls following baseline interview, also during a six-month period.

Results: Both strategies, based on principles of Motivational Interviewing, have been shown to be effective in reducing drinking and increasing contraceptive use. Out of the 404 women participating in the program, 310 (77%) women completed at least one follow-up and were included in the analyses. Overall, 59.9% of the women enrolled in both interventions were no longer at risk for an alcohol-exposed pregnancy at the end of the intervention six months later.

Conclusion: Brief Motivational Interviewing, delivered verbally or in a written format, is an effective method of reducing women's risky behaviors for an alcohol exposed pregnancy. The



Individual Level Intervention that included 2 face-to-face sessions resulted in less attrition than the Self-Guided Change version which relied on phone and mail contact only.

Key Words: Prevention, Fetal Alcohol, African American, Women, Contraception, Pregnancy

The U.S. Surgeon General has warned pregnant women and women who may become pregnant to abstain from alcohol consumption in order to eliminate the chance of giving birth to a baby with any of the harmful effects of Fetal Alcohol Spectrum Disorders (FASD). FASD is an umbrella term that describes the full range of birth defects caused by prenatal alcohol exposure. The spectrum ranges from mild and subtle defects, such as a slight learning disability and/or physical abnormality, to the most severe degree known as Fetal Alcohol Syndrome (FAS). FAS can include severe learning disabilities, growth deficiencies, abnormal facial features, and central nervous system disorders. The risk of a baby being born with any of the disorders increases with the amount of alcohol the pregnant woman drinks; as does the likely severity of the conditions. In addition, studies indicate that a baby could be affected by alcohol consumption within the earliest weeks after conception, even before a woman knows that she is pregnant (American Academy of Pediatrics Committee on Substance Abuse and Committee on Children with Disabilities, 2000.)

The prevalence of FAS is approximately 2 of every 1,000 live births in the U.S. (May & Gossage, 2001) while the prevalence of a FASD is about 1 per 100 live births. Other studies have demonstrated that prevalence estimates of FAS in disadvantaged groups and minorities are as high as 3-5 per 1,000 children (Sampson, et al., 1997; Bertrand, et al., 2004). The brain damage caused by alcohol is not reversible. Affected individuals typically have lifelong behavioral, learning, and emotional consequences.

A recent surveillance project found that between 2000 and 2004, there were 10,224 women, ages 14 to 54, admitted to Substance Abuse Treatment programs in Wayne County,

Michigan (FASPP Surveillance Component, 2004). About 50% of the women listed alcohol as one of the three major substances of abuse. There were 1,640 (16.1%) women who were pregnant at admission, just prior to admission or just after admission. These women were linked to 2,144 live births. Out of these births, 562 (26%) were found in the Michigan Birth Defects Registry. The preliminary incidence rate for FAS was 4.1 per 1,000 live births, double the national prevalence rates. The data also demonstrated much higher rates of the following abnormalities: a) babies born small for gestational age, b) overall birth defects, c) microcephalus, and d) infant deaths.

The Michigan Pregnancy Risk Assessment Monitoring Survey (PRAMS, 2005) has consistently found 49% of women drank prior to pregnancy and 5% report drinking during the last trimester. Surveys of women in prenatal care at busy clinics in Detroit have reported 12.5% continue to drink during pregnancy (Flynn et al, 2003). In Wayne County, Michigan, the following characteristics describe the population of 1,640 pregnant women linked to substance abuse treatment (FASPP Surveillance Component, 2004):



- African American (66%)
- 21-44 years of age (97%)
- Unemployed (74%)
- High school education or more (50%)
- Never been married (77%)
- At least one dependent (58%)
- Had previous treatment (48%)
- Average days of alcohol use-10.33 days for the 30-day period prior to admission.

Fifty-six percent of women report not using contraception prior to the target pregnancy (PRAMS, 2003). In addition, more than 40% of the target pregnancies were unintended. Health beliefs and cultural norms influence the use of contraceptives particularly in minority populations (Project CHOICES Intervention Research Group, 2003). Thus, many pregnancies are at risk of alcohol exposure in women who drink regularly and who do not use an effective contraceptive method consistently.

The Michigan Department of Community Health (MDCH) received grant funding from the Centers for Disease Control and Prevention (CDC) for a cooperative agreement to field test a Fetal Alcohol Syndrome Prevention strategy in the City of Detroit (FASPP Intervention Component, 2004). Funding began in 2004 and will end in 2009 and the CDC FASPP grant had three distinct areas of focus: surveillance, diagnosis, and prevention intervention. The intervention project described herein targets women of childbearing age in this urban area who drink heavily and use birth control methods inconsistently. These women are at risk of an alcohol-exposed pregnancy (AEP) because they could have an unrecognized pregnancy while continuing to drink. Much damage can be done to organs in the early stage of development during the first trimester of pregnancy.

The project mirrors the successful prevention intervention titled **Project CHOICES: Changing High-Risk Alcohol Use and Increasing Contraception Effectiveness Study** (Floyd, et al., 2007). The intervention used two strategies to motivate women to reduce drinking to low levels and improve contraceptive use in order to reduce the incidence of an unintended pregnancy that exposes a fetus to alcohol early in fetal development. One strategy relies on evidence-based Brief Motivational Interviewing (BMI) techniques that have demonstrated effectiveness in clinical settings to reduce risky alcohol consumption (Miller & Rollnick, 2002). BMI has been effectively used in a public health setting to promote HIV risk-reduction practices, such as condom use among low-income urban women (Belcher, et al., 1998). An alternative strategy used by the project is self-paced motivational change materials being mailed to the participants (i.e., same materials used with BMI intervention). This strategy, known as Self Guided Change (SGC), has been shown to be effective in a community based setting in Florida (Sobell, et al, 2002).



METHOD:

Procedure

The Michigan Fetal Alcohol Syndrome Prevention Project (FASPP Intervention Component, 2004) funded by the CDC recruited women in public health clinics such as family planning clinics and STD/HIV-AIDS clinic at the Detroit Department of Health and Wellness Promotion (DHWP). Small incentive gifts (e.g., nail files, condom key chains) were given out to women who were willing to screen for eligibility. A media campaign was also pursued in local newspapers, magazines, and one radio station to invite women between the ages of 18 and 44 years old to call in and screen to find out if they were eligible. Eligibility criteria were kept strictly confidential. To be eligible, women had to be between the ages of 18 and 44 years old, be sexually active (e.g., have had sex at least once in the past three months), use birth control inconsistently, and have engaged in binge drinking behavior in the past three months (binge = 4 or more drinks on one occasion) or heavy drinking defined as 8 or more standard drinks per week. Already being pregnant, being diagnosed as infertile, or having had a hysterectomy were exclusionary criteria, because the intervention was designed to take place during the interconceptional period. If a woman became pregnant during the intervention, she was retained in the intervention.

The FASPP applied for and received approval as a service program from the Internal Review Board of the Michigan Department of Community Health. Prior to participating in the intervention, each woman signed an informed consent statement, which described the program comprehensively, as well as stating details of their rights to privacy and confidentiality, and the right to refuse to answer any question or drop out of the program at any time. A copy of the consent form was mailed to the clients who participated over the telephone after verbal consent was obtained. Each participant was assigned an identification number and all her personal information was kept in a locked file under her assigned number with no other descriptive or identifying information.

The Brief Motivational Interviewing (BMI) intervention developed written materials based on the Project CHOICES intervention model which utilizes BMI to assess readiness for change, provide a dialogue that strengthens the motivation to change, and sets up an individualized change plan. After the initial session with an interventionist, three follow-up sessions were provided (one in-person, two via telephone) to continue the Motivational Interviewing and conduct assessment of drinking, sexual frequency, and contraceptive activity. After the participant completes each session of the intervention, she receives an incentive gift that increases in value (a tote bag, bath kit, \$20 Target Store gift card, and \$25 Payless Shoe Store gift card). The follow-up sessions included a motivational component as well as an assessment component. Follow-up sessions were scheduled to take place one month after the initial meeting (in person), 3 months after the initial meeting (by phone), and 6 months after the initial meeting (by phone).

A self-guided change version of the intervention was offered for women who wanted to utilize the materials at home and receive two follow-up telephone calls following baseline telephone interview. Women in this group were assessed at three time points and the project materials



were mailed to them. They received an offer to explain the intervention materials but did not receive any motivational interviewing and did not meet with the FAS prevention specialist in person. The same incentive gifts were utilized as in the BMI Intervention. The follow-up phone calls were conducted for the purpose of assessment of behavior change. The phone follow-ups were scheduled 3 months after the initial phone call, and 6 months after the initial phone call.

Materials

A workbook entitled Personal CHOICES, based on the spirit and principles of Motivational Interviewing, was created to provide feedback to the women about:

- 1) Their personal risk level for having an alcohol exposed pregnancy,
- 2) How their drinking compared to other women in the United States,
- 3) The pros and cons of drinking alcohol and using contraception,
- 4) Assessing their readiness for change, and
- 5) Setting goals and contracting.

The workbook also provides a summary of facts about FAS and FASD, risky drinking, and pregnancy. One unique aspect of the workbook is that the art work chosen for it was culturally relevant for African American women and it included instructions in a conversational question and answer format.

A journal to track target behaviors included on the last two pages, provides women with a convenient way to track their risky behaviors over six months. Each page of the journal provides space to record the number of alcohol drinks consumed for that day, whether or not they had sex, and the contraception method used (if any). The participants were asked to track their at-risk behaviors for a period of one month between the first and second meeting with a FAS Prevention Specialist.

Literature about FAS and FASD were provided to the women as resources, including a pamphlet from a clinic at Children's Hospital of Michigan, which provides assessment of FAS and FASD. In addition, a full list of community resources was made available to the clients for information about services ranging from low-cost substance abuse treatment locations, psychological care, domestic violence shelters, free legal help, and local women's resource centers and support groups.

Participants

The majority of the sample are African American (87.4%), single (64.6%), and live in a household with less than \$20,000 annual income (66.7%). The average age of the women is 30.9 years (SD = 7.6 years) and average education was 13 years (SD = 5 years). Approximately one third of the sample had a high school education (34.4%), forty-nine participants (15.9%) had less than a high school education. Almost one half the sample was better educated with either some college (41.9%) or a bachelor's or master's degree (7.4%). The largest age group of the 18 – 44 year olds eligible to participate was the 25-34 year age range (41.4%). See Table 1 for additional details.



Table 1:
Participant Sociodemographic Characteristics

Participant Characteristic	Percentage (Number)
Age	
18 – 24 years	23.6% (73)
25 – 34 years	41.4% (128)
35 – 44 years	35.0% (108)
Marital Status	
Single, never married	66.6% (269)
Married	8.4% (34)
Living Together	14.6% (59)
Separated/Divorced/Widowed	9.9% (40)
Race	
Native American	.2% (1)
Asian/Pacific Islander	1.4% (6)
African American	86.6% (350)
White	5.0% (20)
Multi-Racial	3.2% (13)
Education	
Less than high school	17.3% (70)
High school graduate/GED	34.9% (141)
Some college	39.4% (159)
College graduate or higher	7.9% (32)
Employed	
Yes	41.8% (169)
No	37.1% (150)
Student	15.8% (64)
Unable to work/Disabled	4.2% (17)
Income	
Less than \$20,000	59.7% (241)
\$20,000 or more	26.0% (105)

Slightly more than half of the participants had not used an effective contraceptive method in the past 3 months (53%) and the average number of binge drinking episodes (≥ 4 drinks per occasion) during the same time period was 18.7 binges (median = 10) with an average number of drinks in a binge of 10.4 (median = 8 drinks). In addition, approximately half the sample (53%) were heavy drinkers (8+ drinks per week) and the average number of drinks per week was 25.4 (median = 16.8 drinks per week). A small number of participants ($n = 6$) did not ever binge drink (1-3 drinks per occasion) but were eligible as heavy drinkers because they regularly drank eight or more drinks per week. Exactly one-half the sample did not use any contraception (50%) or relied on non-device methods such as rhythm (1.0%) or withdrawal (2.7%). Details of baseline contraception and drinking behaviors can be found in Table 2.



Table 2:
Summary of Baseline Risky, Behaviors for last 90 days

Participant Characteristic	%	#
Contraception Use		
Used contraception, but ineffectively	47.0%	(190)
Used no contraception	53.0%	(214)
Alcohol Use		
History of treatment for alcohol/drug problems	13.4%	(54)
Heavy Drinkers (8+ drinks per week)	50.5%	(204)
Number of Binge Episodes in past 90 days		
None	1.5%	(6)
Once a month or less (1-3 binges)	30.7%	(124)
More than once a month (4-11 binges)	20.8%	(84)
One – two binges/week (12-24 binges)	21.5%	(87)
Three-four binges/week (25-48 binges)	16.6%	(67)
Five + binges/week (50 – 90 binges)	8.9%	(36)
Mean	18.7	(sd = 21.9 binges)
Median	10.0	binges past 90 days
Most Drinks per Occasion in past 90 days		
1-3 drinks	1.5%	(6)
4-6 drinks	41.8%	(169)
7-10 drinks	23.0%	(93)
11-20 drinks	23.5%	(95)
21-64 drinks	10.2%	(41)
Mean	10.4	(sd = 7.7 drinks)
Median	8.0	drinks per occasion



RESULTS:

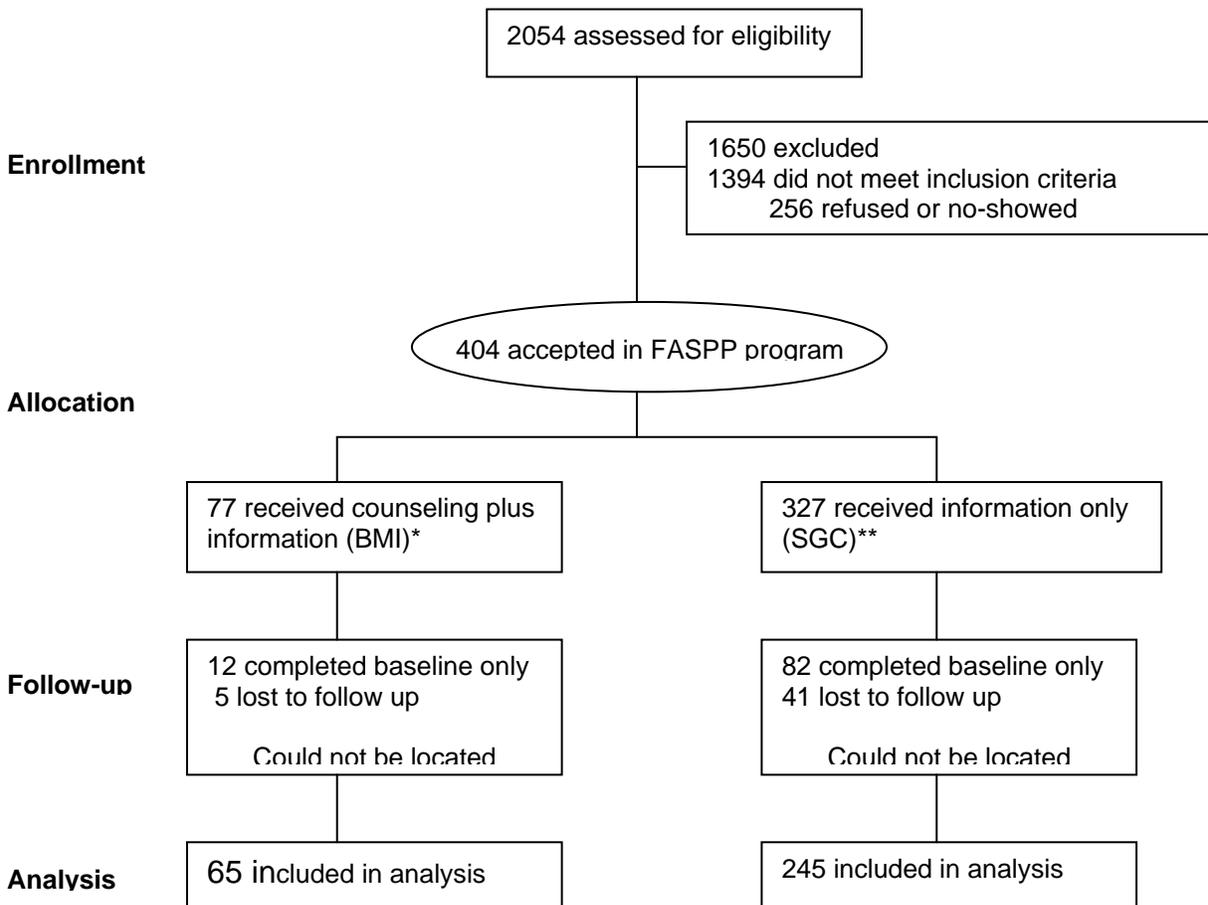
Almost 2,000 women (n = 2,054) were screened for eligibility. Of these, 1,650 did not meet inclusion criteria (1,394 were excluded and 256 declined participation). Approximately one in four women screened was eligible for the intervention. Slightly over 400 (n = 404) women were accepted into the FASPP Intervention program with 77 enrolled in the Brief Motivational Interviewing intervention to meet face-to-face with the clinician, and 327 enrolled in the Self-Guided Change intervention to receive information through the mail. See Figure 1 for details.

Of the 404 participants enrolled in the intervention, 310 (76.7%) received at least one follow-up and 264 (65.3%) completed the intervention. The Individual Level Intervention (BMI) had 84.4% retention and the Community Level Intervention (Self-Guided Change) had 74.9% retention. Women who did not complete the intervention were significantly younger than those who did complete the intervention ($t = 2.03$ (355), $p < .05$) and were significantly more likely to have a household income of over \$20,000 per year ($\chi^2 = 6.88$ (2), $p < .05$).

Figure 1:

Study flow of Fetal Alcohol Prevention Project at DHWP.

**BMI = Brief Motivational Interviewing **SGC = Self-Guided Change*



FASPP Results: To be considered a successful intervention and reduce or eliminate the risk of an alcohol exposed pregnancy, the participants had to change only one behavior (i.e., reduce alcohol consumption below risky levels OR consistently use contraception). Risky level drinking is defined as 7 or more drinks per week or 4 or more drinks on one occasion.

Approximately 25% of the women who enrolled in the intervention endorsed a desire to get pregnant and they were encouraged to eliminate alcohol completely, rather than just eliminating risky levels of drinking. Another group of FASPP intervention participants did not remain sexually active throughout the six month follow-up period (n = 60; 14.9%). These included a number of women who reported that they chose abstinence as a form of birth control and/or as part of their recovery program as recommended by Alcoholics Anonymous or other substance abuse treatment protocol. By the last follow-up, 39 (9%) of the sample reported that they had enrolled in an inpatient or outpatient substance abuse treatment program.

These analyses counted the women (n = 20) who got pregnant as treatment failures (e.g., as being at risk for an AEP) because they had been binge drinking immediately prior to pregnancy and may have binged before becoming aware of the pregnancy. Only one-half of the participants who became pregnant reported that they were actively trying to get pregnant and reducing alcohol consumption accordingly. All of the women who became pregnant abstained from alcohol as soon as they found out they were pregnant (except one woman who reported drinking on one occasion). A summary of overall FASPP results can be found in Figure 2.

Brief Motivational Interviewing-Individual Level Results: Of the 77 women enrolled in the Individual Level intervention, 60 women completed the intervention. Almost three-fourths (n = 55, 71.4%) of these women had reduced their risk for an alcohol exposed pregnancy by the last follow-up meaning that they reduced their alcohol consumption to below risky levels, eliminated binge drinking and/or used a contraceptive consistently (100% of the time) for 30 days.

Approximately half of the women (49.0%) were no longer at risk, i.e., no binge drinking for 90 days and/or 100% consistent, effective contraceptive use for 90 days. See Table 3 for details.



Table 3:
FASPP Brief Motivational Interviewing Results (n = 77)

Brief Motivational Interviewing (n = 77)	1st Follow-up Session	2nd Follow-up Session	3rd Follow-up Session
Risk Outcomes (% or n)	(n = 42)	(n = 60)	(n = 60)
Lost to Follow-up	(n = 35)	(n = 17)	(n = 17)
Reduced Risk Drinking	39.0%	53.2%	49.3%
90 day reduced risk drinking (n)	-	(39)	(28)
30 day reduced risk drinking (n)	(30)	(2)	(10)
Binging and/or 8+drinks/week (n)	(8)	(15)	(15)
Increased Effective Contraception	26.0%	41.6%	58.4%
90 day effective contraception (n)	-	(30)	(28)
30 day effective contraception (n)	(20)	(2)	(17)
Ineffective/inconsistent contraception (n)	(18)	(24)	(23)
Reduced Risk for AEP	46.7%	61.0%	71.4%
90 day reduced risk AEP (n)	-	(47)	(38)
30 day reduced risk AEP (n)	(36)	(0)	(17)
At risk for AEP (n)	(2)	(9)	(8)
Pregnant % (n)	5.2% (4)	5.2% (4)	9.0% (7)

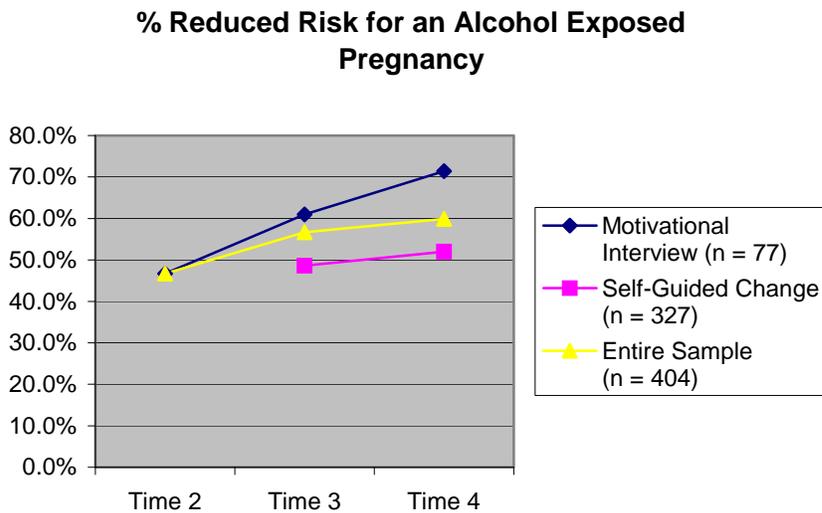
Self-Guided Change-Community Level Results: Of the 327 women enrolled in the Self-Guided Change (SGC) intervention, 204 completed the intervention. Over half (n = 170, 52%) had reduced their risk for an alcohol-exposed pregnancy by the last follow-up. Almost half (46.7%) were no longer at risk for an alcohol exposed pregnancy, i.e., less than 7 drinks per week, no binge drinking for 90 days and/or 100% consistent, effective contraceptive use for 90 days. See Table 4 for details.



Table 4:
FASPP Self-Guided Change Results (n = 377)

SELF-GUIDED CHANGE (n = 327)	1 st Follow-up Session	2 nd Follow-up Session
Risk Outcomes (% or n)	(n = 211)	(n = 204)
Lost to Follow-up	(n = 116)	(n = 123)
Reduced Risk Drinking	34.5%	40.7%
90 day reduced risk drinking (n)	(81)	(95)
30 day reduced risk drinking (n)	(32)	(38)
Binge drinking and/or 8+drinks/week (n)	(96)	(68)
Increased Effective Contraception	35.8%	40.7%
90 day effective contraception (n)	(102)	(125)
30 day effective contraception (n)	(15)	(8)
Ineffective/inconsistent contraception (n)	(92)	(68)
Reduced Risk for AEP	48.6%	52.0%
90 day reduced risk AEP (n)	(134)	(153)
30 day reduced risk AEP (n)	(25)	(17)
At risk for AEP (n)	(50)	(31)
Pregnant % (n)	.6% (2)	.9% (3)

Figure 2:
Percentage of women at reduced risk for an alcohol exposed pregnancy across time.



Note: Time 2 follow-up session was only given for the Brief Motivational Intervention session at 4-6 weeks past baseline. Time 3 and Time 4 follow-up sessions were conducted at 3 and 6 month post baseline for both levels of intervention but technically were the second third point of contact for the Self-Guided Change Intervention.



DISCUSSION:

Both Brief Motivational Interviewing and Self-Guided Change were demonstrated to be effective strategies for reducing risk of an alcohol exposed pregnancy among low-income, minority women. Brief Motivational Interviewing in person had less attrition than the Self-Guided Change intervention that utilized Motivational Interviewing in an interactive workbook, but both strategies inspired change in the women by reducing the amount of alcohol the women were drinking, increasing the amount of contraception they were using, or both simultaneously.

Implementing the Michigan FASPP at the Detroit Department of Health and Wellness Promotion proved to be a worthwhile undertaking but it was not implemented without overcoming various barriers in a public health setting. It took five and a half years to address the myriad issues related to the complex planning of a service program, integrating the program into the health department, and evaluating and monitoring the program once it was underway. One of the most important factors necessary for success is a sustained buy-in from the target public health agency's administration so that the Project CHOICES model garnered institution-wide support.

To accomplish this the service program, in this case, the Michigan Fetal Alcohol Syndrome Prevention Project should be introduced as forthcoming to the management and supervisory staff at the public health setting. This can be accomplished at minimum, by electronic notices via e-mails to the staff using Listservs, or by way of hardcopy notices distributed through in-house mail delivery. This is an important step in the implementation process in a public health setting, which should not be taken for granted. Introducing the program department-wide will foster a spirit of wide support, interest and assistance from the other departments, which invariably will be needed as the prevention intervention becomes established and recognized within the public health setting. This encompasses setting the pace for collaborating with other departments in community outreach activities, collaborating on health care initiatives of mutual interest, providing service referrals between departments, and utilizing existing services effectively and efficiently such as duplication and delivery, public relations, and environmental services.

An additional barrier to implementing as well as intervening with at-risk women in a public health setting centers on proficiency in Motivational Interviewing techniques. In order to be effective, training beyond a one or two-day introductory session to Motivational Interviewing is necessary (Schoener, et al., 2006). At first, there must be leniency and an allowable learning curve supplemented by appropriate trainings for the interventionists to become knowledgeable and proficient in rendering precise and effective Motivational Interviewing techniques and strategies. This psychotherapeutic approach also requires on-going bi-weekly or monthly supervision to ensure that it is being carried out based on the established principles of Motivational Interviewing (Schoener, et al., 2006). This, of course, would require that the individual who conducts the supervision already be knowledgeable and proficient in Motivational Interviewing techniques with credentials to substantiate this such as being M.I.N.T. (*Motivational Interviewer Network of Trainers*) or M.I.S.T. (*Motivational Interviewing Supervisor's Training*) trained. A qualified consultant could also serve in this capacity.



Once the FASPP intervention was established, it became clear early on to project staff that women who met the inclusion criteria were not engaging in behaviors that placed them at high risk for an alcohol exposed pregnancy because they were ignoring the information, but rather because they often didn't realize how much alcohol they were consuming. This became evident after the interventionists assessed clients' drinking levels, converted them to actual alcohol drink measurements, and then repeatedly had to convey to the clients that what they thought was only "a few drinks" was actually a much higher number.

This implies a need for education in public health that highlights the social behaviors that place women at high risk for an alcohol exposed pregnancy (AEP) and possibly having a child born with Fetal Alcohol Spectrum Disorders (FASD). In general, women are unaware of the behavioral risk factors for an AEP and having a child born with FASD because it is not typically taught in schools, at home, or conveyed in a timely manner by their primary care physician or OB/GYN. It is not a topic of general conversation among their social network of peers and contacts, and the warning messages in print media, television, radio or billboards are virtually non-existent. Disclaimers on alcoholic beverage bottles are in very small print, typically located on the back of the containers, and are easily ignored over time from desensitization. Public health settings are an ideal location for delivering warning messages to women about social behaviors that place them at risk for an alcohol exposed pregnancy and having a child born with FASD.

Another consistent experience for the interventionists was refusal of contraception because the participants preferred to allow chance, fate, or "God" to decide when or if they conceived. This was common among a young, poor, uneducated subset of the sample. The concept of 'family planning' was foreign to them and their reticence to take control over their reproductive lives was a unique challenge. Nevertheless, a public health setting is an ideal place to work for widespread cultural changes because it is the place where such women would come seeking services. The target population can be recruited while they are already presenting for other services such as through the Sexually Transmitted Diseases/Communicable Diseases and HIV/AIDS clinics, primary care clinics, and the WIC offices. Perhaps over time hearing similar messages regarding contraception, 'safe sex,' and family planning from multiple sources would result in these ideas becoming more acceptable to this subset of the population at risk for an alcohol-exposed pregnancy.

Sustainability of the project can be accomplished based on and due to the high volume of visits by the target population to the aforementioned sites within the public health setting. Overall, the advantages for establishing Project CHOICES in a public health setting outweigh any potential, latent or manifest limitations or barriers because:

- Women are generally unaware of their social behaviors that place them at high risk.
- Women are responsive to the Project CHOICES prevention intervention model and the majority who did complete the program were at reduced risk upon completion,
- Recruitment can be accomplished at existing services sites within the public health setting, and
- The volume of high-risk women who present for services at the public health setting can facilitate project sustainability.



Attrition was a limitation of the FASPP. An attrition rate of one-third of participants was anticipated by the funders of the project (the CDC) and was conveyed to the FASPP staff members during the project's planning phase. Based on this anticipated decline in clients over the 6-9 months intervention period, it was decided to design the intervention to deliver an abundance of information, education and encouragement during the initial session. By doing this, if the client decided not to continue the intervention beyond the baseline meeting, or skipped one of the earlier follow-up meetings, she nonetheless had been provided with thought-provoking information about the grave risk alcohol poses during the prenatal period. In addition, the FASPP workbook included a plethora of ideas for modifying social behaviors of drinking and birth control use in order to reduce her risk of having an alcohol exposed pregnancy and possibly having a child born with the lifelong disabilities associated with FASD.

To reduce the attrition rate, interventionists undertook efforts to contact clients believed to be "lost to follow-up." Interventionists placed up to five telephone calls to the primary and alternate phone numbers provided, and left messages to return their calls when the option to do so was made available. Additional reminder letters were sent informing the client it was time to schedule or reschedule the next follow-up session—or follow-up telephone call. The letters also reminded the client of the incentive gift they would receive after completing the next session which was either a \$20 Target Store gift card or a \$25 Payless Shoe Store gift card (for the final session).

The response to the reminder letters was encouraging and staff learned that some clients believed they had missed the time period in which to call back and thought they could not continue on. Some clients had misplaced their original reminder letter and due to their already busy schedules, had simply forgotten to call back to reschedule. Some clients had relocated out-of-state and thought because of that, they were no longer eligible to participate in the program; they learned otherwise. Approximately 20 of the 50 clients classified as "lost to follow-up" responded to the follow-up reminder letters.

Clients with cellular telephones posed unforeseen limitations; most noteworthy are the following:

1. Cell phones are highly disposable, easily lost, stolen or broken leading to an inability to contact clients. Obtaining an alternate land-based telephone number is highly recommended.
2. Communication can be difficult if the client is receiving the call from the interventionist while she is mobile or in an area of poor reception resulting in distorted voice levels and sometimes dropped calls. Conversing with a client on a cell phone is preferable when she is stationary and reception is good. It also aids in keeping the client focused on the discussion at-hand and prevents interruptions.
3. Conversing with a client who is riding a bus is discouraged because she is unable to pay full attention to her immediate surroundings which could potentially compromise her safety and certainly her privacy. It is preferable to determine a better time to contact the client when she can be in a more secure setting.



In summary, from a public health perspective, the Michigan Fetal Alcohol Syndrome Prevention Project was successful at reducing the incidence of FASD in Detroit and Wayne county among the participants who took part in the Project CHOICES prevention intervention program. The project also proved enlightening to countless women, as well as men, who were educated about FASD as a result of the numerous FASD community outreach presentations conducted by the staff interventionists both at the Detroit Department of Health and Wellness Promotion and in the community at-large.

REFERENCES:

- American Academy of Pediatrics Committee on Substance Abuse and Committee on Children with Disabilities. 2000. Fetal alcohol syndrome and alcohol-related neurodevelopmental disorders. *Pediatrics*.106(2);358-360.
- Belcher, L., Kalichman, S., Topping, M., Smith, S., Emshoff, J., & Norris, F., et al. (1998). A randomized trial of a brief risk reduction counseling intervention for women. *Journal of Consulting and Clinical Psychology*, 66(5), 856-861.
- Bertrand, J., Floyd, R.L., Weber, M.K., O'Connor, M., Riley, E.P., & Johnson, K.A., et. al., National Task Force of FAS/FAE. (2004). *Fetal Alcohol Syndrome: Guidelines for Referral and Diagnosis*. Atlanta, GA: Centers for Disease Control and Prevention.
- Behavior Risk Factor Survey 2006 and 2007, Michigan Department of Community Health, Department of Epidemiology, statistics compiled by Chris Fussman.
- Flynn, H.A., Marcus, S.M., Barry, K.L. & Blow, F.C. (2003). Rates and correlates of alcohol use among pregnant women in obstetrics clinics. *Alcoholism: Clinical and Experimental Research*, 27(1), 81-87.
- Floyd R.L., Sobell M., Velasquez M., & Ingersoll K., et al. (2007). Preventing alcohol-exposed pregnancies: A randomized controlled trial. *American Journal of Preventive Medicine*, 2007;32(1):1-10.
- Eby, E, Zhu, B, Bouraoui, Y, Miller, K, Paterson, D. 2002. Unintended live births, Michigan, 1988-1999. *MI PRAMS Delivery*. 1(1):1-4.
- May, PA and Gossage, JP. 2001. Estimating the prevalence of fetal alcohol syndrome: a summary. *Alcohol Res Health*, 25:159-67.
- Miller, W.R. & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change*. NY: Guilford. 2nd edition.
- Patel R, Grigorescu V, Bouraoui Y, Miller K, Paterson D. 2005. Preconceptional binge drinking & pregnancy intention. *MI PRAMS Delivery*. 4(3):1-4.



- Project CHOICES Intervention Research Group. 2003. Reducing the risk of alcohol-exposed pregnancies: A study of a motivational intervention in community settings. *Pediatrics*, 111: 1131-1135.
- Reznar, M, Zhu, B, Bouraoui, Y, Miller, K, Paterson, D. 2003. Stress experienced in the year prior to delivery of an infant. *MI PRAMS Delivery* 2(3):1-4.
- Sampson, P.D., Streissguth, A.P., Bookstein, F.L., Little, R.E., Clarren, S.K., Dehaene, P., Hanson, J.W., Graham, J.M. 1997. Incidence of fetal alcohol syndrome and prevalence of alcohol-related neurodevelopmental disorder. *Teratology* 56:317-26.
- Schoener, E., Madeja, C., Henderson, M., Ondersma, S., & Janisse, J. 2006. Effects of motivational interviewing training on mental health therapist behavior. *Drug and Alcohol Dependence*, 82(3): 269-275.
- Sobell, L.C., Sobell, M.B., Leo, G.I., Agrawal, S., Johnson-Young, L. and Cunningham, J.A. 2002. Promoting self-change with alcohol abusers: A community-level mail intervention based on natural recovery studies. *Alcoholism: Clinical Experimental Research*, 26(6):936-948.

Author Note:

Cheryl Lauber, DPA, the Michigan Department of Community Health.

Lisa J. Ficker, MA, LLP, Sandra King, MSA, Jewell Akins, BA, CPS, Dranoel Knox, MA, Detroit Department of Health and Wellness Promotion.

Lisa J. Ficker is now with the Merrill Palmer Institute at Wayne State University.

William Ridella, MPH, MBA, is the Deputy Director of the Detroit Dept. of Health and Wellness Promotion, Detroit, MI.

