

# TO LABEL OR NOT TO LABEL: THE PROS AND CONS OF ALCOHOL WARNING LABELS IN PREGNANCY

Daniela Caprara, BSc., Offie Soldin PhD and Gideon Koren, MD  
The Motherisk Program, The Hospital for Sick Children

## ABSTRACT

There is a public and professional debate on the usefulness of alcohol warning labels. This paper presents the major arguments in favor and against such labeling in the context of alcohol use in pregnancy.

**A**lcohol warning labels were initially introduced in 1989 to provide the public with repetitive reminders of the teratogenic potential of alcohol use. There are strong arguments in favor of the ability of the labels to change public attitudes, making drinking in pregnancy an unacceptable norm. However, studies have repeatedly shown that the warning label does not change drinking behaviors among heavy drinkers and may actually lead to unnecessary anxiety and pregnancy terminations among low-risk pregnant women. Do the benefits of the alcohol warning label outweigh these potential consequences?

This paper will outline the risks of alcohol consumption in pregnancy, the introduction of the alcohol warning label and will critically review the subsequent studies that have been done since its introduction demonstrating the effect of the alcohol warning label on the behaviors of pregnant women in North America.

Maternal alcohol consumption during pregnancy can lead to a multitude of effects known as the fetal alcohol spectrum disorder (FASD). The most recognizable characteristics of FASD include cranio-facial abnormalities, growth deficiencies, and various degrees of induced damage to the developing brain.<sup>1</sup> Of all substances of abuse, ethanol has the potential to cause the most serious neurobehavioral effects in the fetus and is the most common known non-genetic cause of mental retardation.<sup>2</sup>

FASD is typically associated with extensive, chronic alcohol exposure, and is

estimated to effect up to 1% of all live births in North America.<sup>3</sup>

Although the effects of *in utero* alcohol exposure have been clearly documented,<sup>4</sup> the dose of alcohol required to cause such effects has still not been established. A fetal dose-response profile of alcohol levels during gestation has not been fully characterized; it is unknown whether a threshold exists or whether adverse effects can occur even at low levels of exposure.<sup>4</sup> Presently, much debate lies in the safety and/or toxicity of mild to moderate alcohol consumption in the first trimester.<sup>1,5-7</sup> Several systematic reviews have failed to show that one to two drinks in early pregnancy, typical of unplanned conception, can cause measurable fetal damage.<sup>8-10</sup> Health professionals and agencies continue to suggest that even one drink when a woman is unaware of her pregnancy, may adversely affect the fetus, despite the many studies failing to substantiate this claim.<sup>9,11</sup>

In November 1988, the United States set forth an 'Alcohol Labeling Act' which required that a warning label, highlighting the adverse fetal consequences of drinking alcoholic beverages, be placed on all alcohol beverage containers being sold or distributed in the United States.<sup>12</sup> In the context of pregnancy, this label reads:

*According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects.*<sup>12</sup>

This warning was introduced on November 18, 1989<sup>12</sup> and is now used in the United States, Australia, the Yukon and the North West Territories of Canada.

## THE ARGUMENTS

### To Label

It has been argued and documented repeatedly that drinking by fecund women is often excessive. There has been a 2.2% increase in binge drinking among pregnant American women during the last decade<sup>13</sup> and, overall, it is estimated that half of all women in North America drink socially. Approximately 20% of pregnant women continue to drink throughout their pregnancy, 4% at heavy levels.<sup>2</sup> As such, many thousands of expectant mothers expose their unborn babies to binge or high doses of alcohol.

With FASD being the most prevalent preventable cause of neurodevelopmental deficiencies, we are facing a major public health disaster. Under these circumstances, we need a dramatic change in the permissive culture towards drinking. No single method will bring about such a cultural change. It is not sufficient to target women in general or pregnant women specifically, because women commonly drink socially with male friends. The warning labels on alcoholic beverages and in establishments where alcohol is served is one simple, easy and convenient method that may help to change attitudes.

It is interesting that the strongest opponents of alcohol warning labels are industries manufacturing alcoholic beverages. These industries first denied the existence of FAS, and later did very little to prevent it. The main reason for the industry to oppose warning labels is their fear of losing revenue. Their claim that they oppose the label because it is not an effective method of FAS prevention contradicts their lack of efforts to find other effective means.

Studies have claimed that the alcohol warning label is ineffective in changing drinking behaviors.<sup>14-16</sup> However, even if the warning label is not directly effective in changing the pattern of problem drinkers, they are effective in changing the culture of drinking, similar to the change in attitudes toward drinking and driving or smoking. In the unlikely event that at the end, alcohol warning labels are proven to have no affect

whatsoever, this is still a non-expensive means that has no risk or downside to it. In the implementation of the alcohol warning label, nothing can be lost; only gained.

### Not to Label

Since implementation of the alcohol warning label, several studies have suggested that although heavy drinkers are 1.25 more likely to be aware of the warnings since they see the label more frequently,<sup>14</sup> the risk perception and drinking behaviors in this group have remained unchanged.<sup>15</sup>

In contrast, non-drinkers, or low-risk drinkers, internalize the warning labels to the greatest degree, and respond to them with increased risk perception and decreased alcohol consumption.<sup>16</sup> Thus these labels appear to be ineffective in changing the drinking behavior of high-risk groups.

Fifty percent of all pregnancies in North America are unplanned.<sup>17</sup> As such, the chance that a mother would inadvertently expose her fetus to small amounts of alcohol prior to diagnosis of pregnancy is high, making mild 'social' drinking the most common chemical exposure during early pregnancy.<sup>8</sup> To date, the effect of the alcohol warning label on the risk perception of women who have had one to two inadvertent drinks before pregnancy was diagnosed, has only been sparsely studied. A 1996 report has shown that the presentation of an alcohol warning video lead participants to believe the consumption of even one gestational alcoholic drink can cause fetal harm; prior to the viewing of the video they had no such beliefs.<sup>8</sup>

The introduction of the alcohol warning label was based on the notion that providing the public with repetitive reminders about the teratogenic potential of alcohol would educate, and at the very least, cause no harm.<sup>8</sup> However, it can be argued that labeling may lead to increased risk perception leading to considerations of termination of wanted pregnancies in cases where low-risk women have consumed one to two drinks before becoming aware of their pregnancy. This increase in needless anxiety and stress may also theoretically result in increased fetal risk

due to stress-related complications.<sup>18,19</sup> While the message that heavy drinking is associated with fetal embryopathy is an undisputed one, its extrapolation by agencies, health professionals, and the general public, to mild and inadvertent exposures in early pregnancy is not evidence-based.

To label or not to label? This is an ongoing question that still has many avenues open for debate. Further examination of the alcohol warning label is needed. Factual proof that ensures no adverse consequences associated with their use is necessary to justify the possible benefits they may provide for problem drinking pregnant women.

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