

Research article

## A survey of physicians knowledge regarding awareness of maternal alcohol use and the diagnosis of FAS.

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### Abstract

**Background:** Alcohol is the most widely used drug in the world that is a human teratogen whose use among women of childbearing age has been steadily increasing. It is also probable that Fetal Alcohol Syndrome is under diagnosed by physicians. The objectives of this study were twofold: 1) to evaluate the experience, knowledge and confidence of family physicians with respect to the diagnosis of FAS and 2) to evaluate physicians awareness of maternal drinking patterns.

**Methods and Participants:** A multiple choice anonymous questionnaire was sent to a randomly selected group of family physicians in the Metropolitan Toronto area.

**Results:** There was a 73% (75/103) total response rate; Overall, 6/75 (8%) of family physicians reported that they had actually diagnosed a child with FAS. 17.9% had suspicions but did not make a diagnosis and 12.7% reported making a referral to confirm the diagnosis. Physician rated confidence in the ability to diagnosis FAS was low, with 49% feeling they had very little confidence. 75% reported counselling pregnant women and 60.8% reported counselling childbearing women in general on the use of alcohol. When asked what screening test they used to detect the use of alcohol, 75% described frequency/quantity. Not a single respondent identified using the current accepted screening method for alcohol use (TWEAK) which is recommended by The Centre for Addiction and Mental Health.

**Conclusions:** Family physicians do not feel confident about diagnosing FAS. None of the physicians were aware of the current screening methods to accurately gauge alcohol use in pregnant and childbearing women

### Background

The Centre for Addiction and Mental Health (CAMH) in Toronto reports that approximately 80% of Canadian women currently consume alcohol, up from 67% in 1986. Guidelines from CAMH specify that low risk drinking

should not exceed 2 standard drinks on any given day and no more than 9 drinks per week. Of these drinkers, it is estimated that 2% drink greater than 15 drinks per week and 4% engage in binge drinking of 5 or more drinks per occasion. [1]. Consequently, it is conceivable that a signifi-

cant number women who are problem drinkers and are of child bearing age, will become pregnant and may give birth to a child with FAS.

There are no Canadian statistics on pregnant women drinkers, however it has been documented in the literature from the U.S, that women do drink during pregnancy, with one study reporting that 37% of pregnant teenagers and 24% of pregnant adults reported binge drinking in their 1st trimester [2]. A more recent study documented that more than 20% of pregnant women drink alcohol [3].

Many studies have been undertaken to estimate the occurrence of FAS', with the current accepted incidence of 4.3 per 100 live births of women who are 'heavy drinkers' [4].<sup>4</sup> Even though heavy drinking does not automatically result in the birth of a affected child, it is generally recognized that pregnant women should err on the side of safety and not consume any alcoholic beverages during pregnancy [5]. Fortunately, most women do heed this advice, but for the ones that do not, there can be serious medical, emotional and economic complications involved with a diagnosis of FAS [6].

The Motherisk Program at the Hospital for Sick Children is a counseling service for pregnant women and their health professionals concerning exposures such as drugs, chemicals, radiation and infectious diseases etc. A separate toll free telephone line is accessible throughout Canada, available for callers who wish to discuss alcohol and substance use only. Health professionals, including a substantial number of physicians call this line asking for information about FAS. Many of them have told us that due to lack of training, they do not feel comfortable in making a diagnosis of FAS. Based on these anecdotal reports we decided to systematically review the knowledge and practice in this field in the Metropolitan Area of Toronto. In the related literature, a retrospective chart review study demonstrated that physicians were unable to accurately diagnose FAS according to the defined criteria. In this study, even though physical features consistent with FAS were documented in the charts of newborn infants there was a 100% failure to diagnose FAS even with documented alcohol exposure [7].

In another study, physicians reported uncertainty relating to several factual and opinion based statements concerning FAS, including ability to diagnose at birth and whether their colleagues were aware of the major criteria to make a diagnosis [8]. Another study found that physicians do not routinely ask their pregnant patients about alcohol use [9]. In the single Canadian study, carried out in Saskatchewan 9 years ago, the physicians surveyed did not

feel comfortable diagnosing FAS and expressed a need for more education [10].

This generalised lack of information, differences in opinion and inability to diagnosis FAS may reflect the documented severe inadequacies in medical training regarding alcohol use and abuse and more specifically FAS. A MEDLINE search did not reveal any other Canadian surveys of this type in the literature. As one of our goals at The Motherisk Program alcohol helpline, is to educate physicians on how to diagnose FAS, our study was aimed at identifying the gaps in knowledge that need to be addressed.

### Methods and Participants

An anonymous self administered questionnaire was sent to 103 randomly selected family physicians whose names were listed in the current Canadian Medical Directory. They were randomised by selecting every fourth family physician in the Directory. Initial contact was by a telephone call to the physician's receptionist which was subsequently followed by a fax. A second call and fax was repeated in two weeks if there had not been a response. The questionnaire was two pages long consisting of multiple choice questions. There were twelve questions that were divided into three sections 1) demographics 2) ability to identify factors related to problem drinking in pregnant or childbearing women, by asking them what tools they use for assessment of alcohol use eg. maternal reporting, or questionnaires such as the TWEAK (Table 1) and 3) the ability to diagnose FAS by asking them to identify key factors in the making of a diagnosis. A pilot phase of the study indicated that it could be filled out in 5-10 minutes.

### Results

Since this was an exploratory survey of physicians knowledge and practices in this field, descriptive statistics in numbers and percentages are used to present the results.

A total of 75/103 (73%) completed questionnaires were returned: As a group 45.6% were male and 54.4% were female and had been practicing a mean of  $16.1 \pm 9.8$  year, with the length of practice ranging from 1-40 years.

The first question asked was 'Do you think that your own drinking behaviour(or lack of) influences your ability to diagnose problem drinking' (12%) said it did, (86.5%) said it did not with one person answering 'don't know'. With regards to counselling women on the use of alcohol, 74.7% reported having obtained a history of alcohol use during pregnancy, while 61% reported having counseled women of child bearing age on the use of alcohol in general. However, 34% of respondents reported using the CAGE questionnaire (which is considered relatively in-

**Table 1: The 'TWEAK' Test Do you drink alcoholic beverages? If so please take our TWEAK test**

T	Tolerance	How many drinks does it takes to make you feel high? (two or more score two points)	x
W	Worry	Have close friends worried or complained abot your drinking in the past year? (if yes, score one point)	x
E	Eye opener	Do you sometimes take a drink first thing in the morning? (If yes, score one point)	x
A	Amnesia	Has anyone ever told you about things thay you said or did while you were drinking that you could not remember? (If yes score one point)	x
K	Cut down	Do you sometimes feel the need to cut down on your drinking? (If yes, score one point)	x

**Scoring:**To score the test a seven point scale is used. A total score of three or more points indicatethe person is likely to be a heavy drinker

**Table 2: Physicians recommendations to women regarding alcohol use during pregnancy**

Recommendation	% physicians
The amount of alcohol considered safe for the fetus is unknown	57.5
No alcohol is recommended throughout pregnancy	65.0
No alcohol is recommended in the first trimester only	5.0
A glass of wine or beer occasionally is not likely to be of concern	53.8
Other (indicates options not listed above)	2.5

*Some physicians selected more than one option*

**Table 3: Physicians opinions regarding general knowledge of FAS**

Statements	True %	False %	Don't know %
<b>Criteria</b> = FAS is an in identifiable syndrome	92	5	3
<b>Childhood</b> = easier to identify during childhood	75	12	13
<b>Dx</b> = Making diagnosis can improve treatment	89	2	9
<b>Life long</b> = Dymorphology is permanent	72	20	8
<b>Overdiagnosis</b> = FAS is overdiagnosed	3	93	4

sensitive in predominantly white populations as is the case in Toronto) or relying on self reporting 66% (which is often an underestimation).

To elicit the recommendations physicians would most likely give to pregnant women regarding the use of alcohol during pregnancy, they were asked to select statements which they felt were appropriate for counseling. (Table 2)

To assess physicians knowledge regarding FAS facts in general, they were asked to give their opinion on the accuracy of five statements they were asked to evaluate. As a group, with the exception of the statement 'FAS is over-

diagnosed' the respondents agreed that these statements were accurate. (Table 3) From a list of FAS associated features, the respondents were asked to select the three most important features to aid in the diagnoses. Only 8% were able to correctly identify the three most important features, with 50% two features, 30% one feature and 7% who could not identify any of the features.(Table 4)

The respondents were next asked to select what are the three most important factors in determining the Quality of Life (QOL) for a child diagnosed with FAS from a list which included early diagnoses as the most important fac-

**Table 4: Identification of FAS diagnostic criteria**

FAS Features	% physicians
<b>Growth retardation</b>	39.2
<b>CNS neurodevelopmental abnormalities</b>	58.2
<b>Facial dysmorphism</b>	77.2
Behavioural problems	41.8
Cardiac malformations	2.5
Mental retardation	13.9
Confirmed maternal alcohol exposure	67.1

*The physicians were asked to rate the three most important features of FAS actual three most important features in bold*

tor. Only 53% identified the latter as being the most important factor.

The next question dealt with the physician's perceived competency at diagnosing FAS, with 81% of the family physicians feeling that their training was inadequate. When asked if physicians in general possess the skills and knowledge to diagnose FAS, more than 70% felt that they did not. Lastly, 8% of the respondents did feel comfortable with their ability to diagnose FAS, despite the fact they were unable to identify the three most important diagnostic criteria and QOL factors determining the optimal outcome for the child.

## Discussion

This is the first survey of its kind carried out in the Metropolitan Toronto area where there is a high density of physicians serving a heterogeneous population. This survey confirmed some of the findings of other similar surveys [7–10] in other geographical areas and we were also able to report on several new findings.

The number of physicians (86.5%) who felt that their own drinking behaviour (or lack of) did not influence their diagnosis of a drinking problem was an interesting finding, as it has been documented that this is an important factor [11]. This lack of understanding of their own behaviour could be of concern when asking a pregnant woman about her alcohol use resulting in an over or underestimation of use. Most physicians did counsel their pregnant patients and women of childbearing age about alcohol use. However, recommendations were rather inconsistent and they were not up to date on the current accepted screening methods. It was surprising that not a single respondent reported using the TWEAK, which is currently considered the most accurate screening method [12].

Most of the respondents felt that they did not feel comfortable, nor did they feel their colleagues were competent in diagnosing FAS and felt that there should be more education in medical schools. Even the individuals who stated they did feel competent, were in the most part not able to identify all of the diagnostic criteria or name the most important factors in determining the optimal quality of life for these children. This last observation is troubling as early identification of FAS (before the age of 6 years old) is considered the single most important factor that determines self sufficiency as an adult for those affected [13].

This study was carried out by a 'HIC' (Determinants of Health in the Community) student from The University of Toronto Medical School. After completing the project, she felt that it would be important that medical students receive more training on the subject to enable them to make a difference in helping to deal with this preventable condition once they become practicing physicians. At the present time there is little education devoted to this subject aside from one or two classes and she and her fellow students feel there are a great many myths and misperceptions regarding FAS.

There are a number of limitations to this study, the main one the relatively small number of physicians surveyed. The number of physicians who did not respond to the survey is always an inherent bias, as it is quite possible non responders may be less knowledgeable about FAS and therefore not interested in filling out a questionnaire. However, a 73% response rate is quite high for a randomly sent survey to physicians, so this may not be a strong factor. Lastly, this survey was carried out in Toronto and caution is required before extrapolating these findings to the rest of Canada. It would be useful to survey physicians in other areas of Canada, especially where there is a high incidence of FAS.

In summary, physicians feel they need more education about FAS as they are not confident about being able to make a diagnosis. They are more comfortable than in the past about asking women about their alcohol use, however they need further education about screening methods to ensure an accurate record to allow them to become alerted to a woman who is pregnant or of childbearing age who has a drinking problem. Medical schools should be encouraged to include more education in this field in their curriculums and practicing physicians should be encouraged to attend CME's on the subject. At Motherisk we are developing methods using video conferences to assist physicians with diagnosis from anywhere in the country.

FAS exerts a heavy toll on society both financially and emotionally. However, it is one hundred percent preventable, so it is imperative that physicians receive compre-

hensive education in this field, not only to help prevent babies born with this syndrome, but also in early detection which can lead to interventions that can improve the quality of life of affected children.

### Competing interests

None declared

### Acknowledgements

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