

How big is a self poured glass of wine for Australian drinkers?

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Abstract

Introduction and Aims: To investigate the average self-reported size of a self-poured glass of wine for Australians aged 16 and over.

Design and Methods: Cross-sectional survey data was taken from the first wave of the Australian arm of the International Alcohol Control study administered to 2020 Australians aged 16 and over with an oversampling of heavy drinkers. Respondents were asked about their usual consumption in eight locations, with specific items asked about the drink type and how much they consumed. The 639 respondents who stated that they drank bottled wine purchased at off-licensed premises by the glass were asked *“how many glasses do you get to a bottle?”*

Results: On average, small, generic and large sized glasses were 144, 156 and 166mls respectively, with an average glass size of 154mls overall.

Discussion and Conclusions: Wine drinkers may be underestimating their own consumption due to large glass sizes and survey data estimates of wine consumption should also be adjusted to account for glass size. The way a standard drink of wine is presented in health promotion materials should also be considered in light of these findings.

Introduction

Surveys are a staple measure in public health studies investigating harms from alcohol consumption. There does seem to be systematic, as well as random, bias in survey measurement of alcohol consumption, and it should be possible to control for some of these biases if they are methodologically studied first.¹ The aim of the current study is to assess the average size of a self-poured wine glass for Australian adults to aid in the control of some of this systematic measurement error.

Survey measures that let respondents nominate their own units of measurement, as compared to them estimating the number of standard drinks they consume, may reduce some of this error. For instance, it has been put forward that one of the reasons that the “yesterday” method of recall appears to account for more consumption than graduated frequency is because of the specific units of drink types used in this measure.² The size of a wine glass can vary significantly; this will impact on how much alcohol is being recorded as consumed in survey research. In the U.K. drinkers underestimate the size of their wine glass³ and in Western Australia a study on older drinkers found that the average self-poured glass of wine was 1.18-1.28 standard drinks.⁴

Ascertaining the size of an average glass of wine is important from a health promotion perspective. In Australia, health promotion materials about how much people can drink before driving, or to stay under the National Health and Medical Research Council guidelines,⁵ refer to a small glass of wine of 100ml, while using 150ml as a ‘restaurant serving’ with accommodation for the different average alcohol content of different types of wine. Any mismatch between reality and perception of how large a small glass of wine is, particularly when the wine is self-poured, could impact on how people interpret this information.

As part of the survey methodology used in the International Alcohol Control Study (IAC), respondents are asked to nominate how much they drink on a usual occasion in terms of their choice of units of measurement.⁶ Respondents who drank bottled wine purchased from off-licensed premises were then asked how many glasses of wine they got to a bottle. The aim of the current study is to use this information to ascertain the size of a self-poured glass of wine for Australian drinkers.

Method

Sample

A total of 2020 people agreed to participate in the study, a computer assisted telephone interview. The response rate, based on the American Association of Public Opinion Research⁷ standards, was 37.2%. A dual frame sample was used with 1220 respondents recruited by landline and 800 by mobile phone. The landline sample was used to assist in gaining geographical representativeness in the sample, covering all states and territories,

both rural and urban, with the mobile sample complementing this to represent those in mobile-only households.

In both sub-samples, 'risky drinkers' were oversampled, defined in this study as those who drink the equivalent of 5 or more standard drinks on an occasion at least once a month. According to the 2010 National Drug Strategy Household Survey,⁸ these drinkers make up 30% of the Australian population aged 16 or over. Screening questions were used to identify population subgroups for differential sampling, so that two-thirds of respondents in the final sample are risky drinkers (as defined above). This was done by randomly selecting only one-third of those respondents that did not meet this heavy drinking criterion. Sample weights corrected for disproportionate representation by gender, age, geography or the aforementioned oversampling of heavy drinkers. A more detailed methodology can be found in the Technical Report.⁹ The focus of the current study is on the 639 respondents aged sixteen and over (57% female, mean age = 48.9, SD=15.7) who stated that they drank bottled wine purchased from off-license premises.

Survey

The Australian IAC survey was adapted from the New Zealand version of the survey with a few notable differences. Questions on alcohol consumption were asked in the same way as other IAC studies: respondents are asked about where they drink, how often they drink at each place and what they usually drink at those places with the six months prior to completing the survey as the reference period. The focus in the current study was on respondents who drank bottled wine in their own home, other people's homes, at work or in public space, that is, places outside of licensed premises. Respondents who stated that they drank bottled wine at these places were asked how much they drank and were free to choose from the following units to best describe the amount they usually consume; bottle, half bottle, small glass or large glass. Any respondents who were not able to state whether their glass was "a large glass" or "a small glass" were then given the option of stating that they had just "a glass" of wine (referred to as generic for the rest of the paper). In total 72% of respondents who drank bottled wine purchased off licensed premises selected a small, generic or large glass as their unit of measurement, as compared to a bottle or a half bottle. The 639 respondents who measured their wine consumption by the glass, be it small, generic or large, were then asked "*how many glasses do you get to a bottle?*".

Data Analysis

Data analysis was conducted on Stata version 12.¹⁰ All results below are weighted to adjust for the likelihood of being surveyed based on age, sex, location and oversampling of heavy drinkers, unless they are reported as a frequency. Some respondents answered the question on how many glasses to a bottle more than once as they consumed bottled wine in more than one of the above listed locations. Some of these stated that they used the same category of glass size, for instance they drank small glasses at their own home and work, in this case the mean score of all relevant responses was used. When respondents stated that

they had different sized glasses at different locations, for instance a small glass in their own home and a large glass in someone else's home, then each of these responses are used for both glass sizes. As such there were 651 responses from 639 respondents.

Please note that all estimates of glass size were calculated using the size of the glass in millilitres per respondent, not the mean number of glasses to a bottle. For instance if two people state that they get 5 glasses to a bottle and one 4, then it could be said that the mean number of glasses to a bottle is 4.67, or 160.7ml (750ml/4.67). Alternatively it could be said that the first 2 people had a glass size of 150ml (750ml/5) and the third person had a glass size of 187.5ml (750ml/4), and that therefore the average of these scores is 162.5ml ((150+150+187.5)/3). As the question "how many glasses are you getting to a bottle" was asked in order to find out the size of a glass that people pour for themselves, the latter method was used.

Results

The distribution of responses to the question "*how many glasses of wine do you get to a bottle*" are shown in Figure 1. The majority of respondents stated that their wine glass was neither small nor large, with 439 respondents (67.7%) saying they drank a generic sized glass of wine. Large wine glasses were the least popular, with 63 (9.1%) respondents stating that they drank large glasses and 175 (28.6%) stating that they drank small glasses of wine.

The responses for all glass sizes combined is normally distributed; the most common response for both generic glasses and for all glass sizes combined was 5 glasses to a bottle (150ml). The most common response for large glasses was 4 to a bottle (187.5ml) and for small glasses, 6 (125ml). As can also be seen in Figure 1, there was an oddly high number (n=11) of respondents who stated they got one glass to a bottle (750ml) among those who stated that they had a small glass of wine; these respondents were excluded from further analyses to avoid falsely inflating the size of a small glass of wine.

<Insert Figure 1 approximately here >

As can be seen in Table 1, there is a small difference between small, large and generic sized glasses, however all are much larger than the 100ml standard drink. The percentage of the respondents who reported small wine glasses that stated that they got 7.5 or more glasses to a bottle (i.e., not over 100ml) was 17%, the percentage of those who stated this for all glass sizes overall was 9%. The overall average of 154ml is largely driven by the high number of respondents who stated that they consumed generic sized glasses of wine. The mean size of a large glass of wine is 1.71 standard drinks.

<Insert Table 2 approximately here>

Discussion

The aim of the current study was to investigate the average self-reported size of a glass wine poured by Australians aged 16 and over purchased from off-license premises. The

average size of a glass of wine was 156ml, or approximately 1.5 standard drinks, depending on the alcohol content of the wine being poured. Furthermore, the concept of a 100ml 'small glass' of wine used in health promotion material to represent a standard drink outside of licensed, on-premise setting is not in line with how people are pouring their own drinks, with the average small glass coming in at 143ml. Seventeen percent of those drinking small glasses of wine stated that these glasses were 100mls or less.

While this study provides interesting insight into how Australians are pouring their wine, there are a number of limitations that should be taken into account that also provide interesting avenues for future research. The first limitation of this study is that all survey questions addressed 'usual' consumption in each context; it may be that certain occasions encourage larger or smaller glass sizes. Secondly, this item only addressed bottled wine purchased from off licensed premises. Further research into glass sizes of cask wine and wine served on licensed premises would indicate if these findings are more broadly representative. Third, the low response rate, while common in an Australian context, should be taken into account when interpreting the generalizability of results. Finally, those respondents who reported their wine consumption by the bottle, instead of by the glass, were not asked this question. It is possible that these drinkers pour larger or smaller glasses of wine when drinking.

The strength of the wine was also not taken into account; there is a range of alcohol content in red and white, bottled and cask, wine. While it is possible that those who pour larger glasses do so with wine with lower alcohol content, it is also possible that the converse is instead true and that those who drink wine with higher alcohol content pour larger glasses. That some respondents stated that they drank small glasses of wine and then said that they got one glass to a bottle was surprising and difficult to explain. It is possible that what these respondents were trying to say is that their small glass size was equal to one standard drink; however it is difficult to be sure. While this was 6.3% of those who stated that they had a small glass, it was only 1.7% of the sample overall and therefore should not have unduly skewed results by being re-coded as missing.

Results from this study indicate that when surveys give examples of standard drinks by drink type the size of the serving of wine should be considered carefully. The information here indicates that a good rough approximation of a self poured wine glass is 150ml, not 100ml, as a general measure, similar to the 150ml 'restaurant serving'. Public health promotions in Australia should be updated to take account of the larger size of a glass of wine usually consumed by Australian adults.

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