

The growing trend of young people abstaining from drinking alcohol: a literature review.

Abstract

Background. Youth alcohol use and misuse lead to adverse outcomes. However, the literature has not always associated complete abstinence with better health. Since recent literature indicates an increased proportion of young abstainers, the aim of this paper is to review the studies investigating this upward trend and the factors associated with it, such as socio-demographics, school performance, social life, physical and mental health, and parental influence.

Methods. Different databases were searched and appropriated terms were used. Given that the trend has only emerged in recent years, the review was limited to papers published since 2000. A total of 970 papers were returned and 10 were retained for the present review.

Results. All papers covered by the review acknowledge the existence of a new significant trend resulting in more young people in developed countries who are choosing to abstain completely from drinking alcohol. They are in good physical and mental health and perform better at school than their drinking peers. The quality of their social life, albeit slightly more limited than that of their drinking peers, appeared to be good.

Conclusion Young alcohol abstainers represent a group situated at the beginning of a continuum of alcohol consumption, they do well and are not very different from light drinkers. Alcohol abstinence at young age does not seem to have any downsides and should therefore be generally advised. To further promote such behavior, measures to encourage parental monitoring and more generous public expenditure on health services and family benefits should be encouraged.

Introduction

Young people's alcohol consumption is a major public health concern around the globe. It is associated with alcohol-related injuries like car accidents, unwanted sexual experiences and other deleterious outcomes (Bonomo et al., 2001). It is known that alcohol use and misuse in adolescents can be a sign of developmental problems and may be a predictor of anti-social behavior (Holly & Wittchen, 1998; Pape & Hammer, 1996). Alcohol use is also associated with a range of future negative outcomes, including alcohol use disorders (Bonomo et al., 2004; DeWit et al., 2000; Duncan et al., 1997). While excessive drinking and its negative consequences have been well studied, particularly the "fashion phenomenon" of binge drinking (Almeida-Antunes et al., 2021; Ehlers et al., 2021; Greenwood et al., 2021; Simone et al., 2021), young people at the other end of the spectrum – non-drinkers – have been largely overlooked. This is somewhat puzzling given that lifetime alcohol abstinence is considered an example of healthy behavior.

A Finnish study studied abstainers among the different adolescent drinking classes (moderate drinkers and heavy drinkers), and the picture was contrasted (Laukkanen et al., 2001). Alcohol abstainers smoked less, did not use medicines or drugs and performed better at school; girls in this group also had better school attendance. Although it found that girls who abstained had a similar number of friends as their drinking peers, boys appeared to have fewer friends of the opposite sex than their alcohol-consuming counterparts. The sexual self-image of abstinent girls was also more negative than that of their female drinking peers. In a similar vein, a Norwegian study found that the quantity and quality of friendships was better among adolescents who drank (Hoel et al., 2004). A Swedish study found an association between alcohol consumption and social media use, suggesting that drinkers have more social contacts (Larm et al., 2019). A study from Switzerland suggested that alcohol abstinence among young people was a deviation from

the social norm (Mueller et al., 2009). Overall, these studies tend to depict young abstainers as healthy despite their relatively limited social life, which is probably due to being outside of the social drinking culture and being considered deviant from the norm, at least from a statistical perspective.

A relatively steep decline in adolescent drinking habits was observed at the turn of the century. For instance, the share of abstinent 14-year-olds in Finland increased from 50% in 1983 to 66% in 2013 (Lintonen & Nevalainen, 2017). A similar rise in youth abstinence has been observed in North America and in other European countries (Looze et al., 2015). Only a few studies have explored the reasons behind this emerging trend or described how young abstainers differ from or resemble their drinking peers, and identified their characteristics. Given the growing number of young people who fall into this category and the potential overall positive health outcomes of this trend, youth alcohol abstinence is a public health issue. It would therefore be of interest to have a clear picture of who these young people are, how much they differ from their drinking peers, how they relate to them, how their parents could influence their decision not to drink, and whether they are in good physical and mental health. The assumption is that alcohol abstinence among the young and adult populations generally leads to better health outcomes.

The aim of this review was to explore the literature on the growing shift towards alcohol abstinence among adolescents and young adults, with a particular focus on prevalence trends and the factors associated with it as described in the literature (such as socio-demographic parameters, school performance, social life, physical and mental health, and parental influence).

Methods

Search strategy and inclusion criteria

On 16 July 2021, Pubmed, Embase, APA PsycINFO, Google, Google scholar and Web of Science – Core Collection databases were screened. The following age-related search terms were used: adolescent, adolescence, young adults, youth, young people, teen, and teenager. Database-specific indexing terms were used when available. For alcohol abstinence, search terms included abstinence, abstainer, quit alcohol use, and non-drinker, as well as combinations thereof. There were no limitations regarding geographical area or type of publication. Since this trend seems to have emerged at the turn of the century, the publication date range was set to the year 2000 and after. In this sense, the time of the cohort's measurements had to be also in this timeframe, at least for the later waves. The lower age limit was set at 14 in order to exclude individuals who were too young to be exposed to alcohol and therefore prevent any misclassification. The upper age limit was set at 24 to ensure that the search also captured studies on college years (college being a major site of alcohol initiation), and to reflect what a recent study putatively established as the new upper age limit of adolescence (Sawyer et al., 2018).

Initially, a total of 1,398 records were identified; 428 were duplicates and were therefore excluded. The reason for conducting a wide-ranging search was to ensure that no relevant articles were missed even if it meant that most of the search results constituted false positives.

The remaining 970 records were then screened for relevance. The first screening examined the abstract content. This was followed, where necessary, by a more thorough screening of the main body of the article. The primary reason for exclusion was a focus on drinkers rather than non-drinkers, whereby the studies treated the latter as a small sub-group and did not analyze them in detail. Studies were also excluded if the main subject was the use of substances other than alcohol and if alcohol abstinence was cited merely as a secondary outcome. Concerning the definition of alcohol abstainers, it was not always clear enough to be kept in the final selection; in some

instances, it included light drinkers, often based on a short time recall and with no implication that the person was a year-round abstainer. Another difficulty was grouping young people who also abstain from using other substances like tobacco and illegal drugs.

The age range was one of the main exclusion criteria. In most cases, the reason for exclusion was the inclusion of adults in the study. Sometimes age categories were shown at the beginning of the article, individualizing the young abstainers, but subsequent analyses included all age groups together. Additionally, a minimum sample size of 50 abstainers was required to make the cut. The context also had to be sufficiently broad. Consequently, articles that looked at minority groups were excluded as their conclusions would apply only to that highly specific context. A number of studies were excluded because they dealt with pre-2000 cohorts.

Next, we excluded all search results that were not full papers, i.e. abstracts, comments and errata. We also omitted literature reviews. Qualitative studies were also excluded because an examination of abstinence motivations was not the primary aim of this literature review. Finally, articles which were not written in English were omitted (Figure 1).

Results (Table 1)

Overview

A total of ten articles met the inclusion criteria. The earliest dated from 2009 (Huang et al., 2009), whereas the most recent was published in 2020 (Yuen et al., 2020). The most represented country of origin of the sample was Sweden (n=3) (Larm, Åslund, et al., 2018; Larm, Livingston, et al., 2018; Svensson & Andersson, 2016), followed by Australia (Livingston, 2014; Yuen et al., 2020), the UK (de Visser et al., 2014; Ng Fat et al., 2018) and the US (Huang et al., 2011; Huang et al., 2009) with two entries each. One study included data from 24 European and North

American countries (Vieno et al., 2018). The design of most of the studies was cross sectional, except for one which was based on longitudinal data (Yuen et al., 2020).

The sample was also diverse in terms of how and where the questions were asked. The most common were paper and pencil questionnaires administered in school settings (Larm, Åslund, et al., 2018; Larm, Livingston, et al., 2018; Svensson & Andersson, 2016; Vieno et al., 2018). Two studies mailed surveys to college students (Huang et al., 2011; Huang et al., 2009). One offered online questionnaires (de Visser et al., 2014), and one face-to-face interviews (Ng Fat et al., 2018), while the other two administered questionnaires at home either in paper-pencil format or online (Livingston, 2014; Yuen et al., 2020).

The age range showed some variability across studies. The main pattern was found in five studies which looked at a cohort aged between 14 and 17 (Larm, Åslund, et al., 2018; Larm, Livingston, et al., 2018; Livingston, 2014; Svensson & Andersson, 2016; Vieno et al., 2018). The age range in the two studies from the UK was from 16 to 21 and 24 years, respectively (de Visser et al., 2014; Ng Fat et al., 2018). The two US studies were conducted among college students; although the age range was not specified, the articles reported an average age of 22.

Prevalence

Nine studies had a prevalence ranging from 5.1% to 50.2% (de Visser et al., 2014; Huang et al., 2011; Huang et al., 2009; Larm, Åslund, et al., 2018; Larm, Livingston, et al., 2018; Livingston, 2014; Ng Fat et al., 2018; Svensson & Andersson, 2016; Vieno et al., 2018). In the longitudinal study, the prevalence was 80% at baseline and 8% at the last follow-up (Yuen et al., 2020).

Measure to define alcohol abstinence

There was no uniform way to assess abstinence across the studies. Three studies did not specify the exact formulation of the questions (de Visser et al., 2014; Larm, Livingston, et al., 2018; Svensson & Andersson, 2016). Two studies referred to abstinence over the last 12 months (Larm, Åslund, et al., 2018; Livingston, 2014). Four studies asked questions allowing respondents to self-report as a “non-drinker” or “never drinker” (Huang et al., 2011; Huang et al., 2009; Ng Fat et al., 2018; Yuen et al., 2020). The remaining study had a question specifically mentioning lifetime abstinence (Vieno et al., 2018).

Growing trend

As we mentioned earlier, geographical zones, as well as the year of study and the wording of the abstinence question made it difficult to compare abstinence rates over time by simply comparing the prevalence in two studies conducted ten years apart. In contrast, the design of five studies was conducive to monitoring prevalence trends over time (Larm, Åslund, et al., 2018; Larm, Livingston, et al., 2018; Livingston, 2014; Ng Fat et al., 2018; Vieno et al., 2018); these articles featured two or more waves of cross-sectional surveys of young people in the same age group or school year, in the same population. In all five cases, prevalence increased over time.

The lowest gain in prevalence was 8.1% over eight years (Larm, Åslund, et al., 2018), while the highest was 25.5% over 12 years (Larm, Livingston, et al., 2018). Two studies assessed the statistical significance of the trend: one in the UK found the trend to be highly significant ($p < 0.001$), and, in the multi-country study (de Visser et al., 2014; Ng Fat et al., 2018; Vieno et al., 2018), 20 out of the 24 countries showed a significant increase of the abstinence trend over time (the most impressive increases in abstainer rates were in Ireland (from 29% to 54%), Sweden (from 32% to 57%) and Norway (from 23% to 56%). The trend was not significant in

three countries (Croatia, Hungary and Slovenia). However, it is worth noting that in the remaining country, Greece, the opposite trend was observed and was significant: there were fewer abstainers in 2014 than in 2002 (from 20% to 15%) (Vieno et al., 2018).

Correlates of alcohol abstinence

Sociodemographic variables

Unsurprisingly, the rate of abstinence prevalence decreased with age. In the Australian longitudinal study (Yuen et al., 2020), 80.2% of adolescents self-declared as never-drinkers at baseline (mean age = 12.9 years), but only 7.8% did so at the last wave (mean age = 18.8 years)

No consensus emerged for gender differences, and only one study found that these differences were significant (Huang et al., 2009). Huang et al. found that a significantly higher share of abstainers were male (Huang et al., 2009). Similarly, two studies found that abstinence was more common among males, but the difference was not significant (Larm, Åslund, et al., 2018; Livingston, 2014). However, one study found that the majority of non-drinkers were female (Ng Fat et al., 2018). Another study reported no significant difference (Vieno et al., 2018); one reported “similar proportions” (de Visser et al., 2014); and the four remaining articles did not mention any differences (Huang et al., 2011; Larm, Livingston, et al., 2018; Svensson & Andersson, 2016; Yuen et al., 2020).

The socioeconomic status, or a proxy, was mentioned in three instances. One study found that alcohol abstinence was more prevalent, but not significantly so, among young people in the low-income bracket (Livingston, 2014). Another identified a correlation between alcohol abstinence and young people whose parents had not gone to college (Huang et al., 2009). One study seemed to indicate that more recent abstainers (in 2015) were predominantly from middle-class

backgrounds, while in earlier waves of the same study (from 2005 to 2007), the highest proportion of adolescent abstainers were from the lower class (Ng Fat et al., 2018).

School performance

Two studies showed how abstainers performed in school compared to drinkers; in both instances, they fared significantly better. Huang et al. found that abstainers more often had good marks (Huang et al., 2009), while Larm et al. found that they failed fewer grades (Larm, Åslund, et al., 2018).

Social life

Young abstainers seem more likely to have friends who drink very moderately or not at all. Two studies reported that young non-drinkers were likely to have friends who drink very moderately (de Visser et al., 2014; Yuen et al., 2020), and a further two studies reported that the likelihood of having a best/closest friend who also did not drink was highest among young abstainers (Huang et al., 2011; Huang et al., 2009). In one of the articles which looked at friendships in general, young people were divided into four categories according to their alcohol use (never, former, low-risk and hazardous drinkers) (de Visser et al., 2014). A continuum was observed along the classes, with most hazardous drinkers having friends who also drink and vice versa. Non-drinkers were also less likely to be in a fraternity at college, had fewer close friends (Huang et al., 2009) and were less prone to make new friends (Larm, Åslund, et al., 2018). Interestingly, in that last study, although the deficit for non-drinkers to make new friends remained significant in the second wave (2012), it was much smaller compared to the deficit observed during the first wave (2004).

Health outcomes

Two studies focused particularly on the health of young non-drinkers. One found that non-drinking increased significantly over time in healthier sub-groups (non-smokers, those who were very physically active, and those in good mental health), while no significant increase in abstainers was observed among smokers or those in poor mental health (Ng Fat et al., 2018). The other study found that non-drinkers performed better in a variety of mental health behavior measurements including well-being, life satisfaction and confidence in the future (Larm, Åslund, et al., 2018).

Parental influence

All studies investigating parental influence seem to come to the same conclusion: the higher parental control is, the greater the likelihood that their children are non-drinkers. One paper specifically investigated the role of parental monitoring and attitudes towards their child's alcohol consumption. It clearly showed that parents with restrictive attitudes about drinking increased linearly from 2003 to 2015 (Larm, Livingston, et al., 2018). Good parental knowledge of where the adolescent was on Saturday nights, who their friends were and where they spent their evening was also robustly associated with an increased probability of non-drinking. Another study comparing abstainers to different drinking classes found no differences between non-drinkers and moderate drinkers with regard to the level of parental monitoring. However, higher levels of parental monitoring were significantly more common among non-drinkers than early-onset heavy drinkers (Yuen et al., 2020). Larm et al. also reported higher parental supervision and more parental engagement at school among young abstainers (Larm, Åslund, et al., 2018). Finally, Huang et al. found that young abstainers were more likely to live with family (in most cases, presumably with their parents) and that their parents were more likely to be non-drinkers themselves (Huang et al., 2009).

Similarities to other drinking classes

Two articles focused on investigating the overall differences between four drinking classes. One found non-drinkers to be more similar to former drinkers than to low-risk and hazardous drinkers (de Visser et al., 2014). This result indicated that former drinkers were more like “non-drinkers who once tried” rather than “drinkers who then quit”. The other study found no significant differences between abstainers and late-onset moderate drinkers. However, it did find a number of differences between non-drinkers and early-onset moderate/heavy drinkers (Yuen et al., 2020).

The role of demographic composition of the population

One paper investigated whether the growing abstinence trend among Swedish youth could be explained by the change in demographic composition (Svensson & Andersson, 2016). It confirmed that the share of Swedish teenagers from other countries of origin had risen in recent years. Even if these two trends evolved in the same direction within the same timeframe (1971–2012), their analysis revealed no significant association between non-drinking among Swedish youth and the changes in demographic composition, in terms of region of origin.

Personal motivations for not drinking alcohol abstinence

One study did not investigate health per se, but rather health concerns specifically in connection with alcohol use (de Visser et al., 2014). It found that these concerns were lower in both lifetime abstainers and hazardous drinkers compared to former and low-risk drinkers (de Visser et al., 2014). In contrast, a study that looked at the reasons why some young people decided not to drink found that abstainers appeared more worried about the negative effects of alcohol on their health (Huang et al., 2011). One possible explanation for this difference is the higher mean age in the first study (de Visser et al., 2014). The study which examined abstinence motivations also found

that the main reasons for abstaining from alcohol were lifestyle/personal values (religious beliefs, not wanting to have the image of a drinker and beliefs about the effect of alcohol on behavior).

Impact of public health policies on youth alcohol abstinence

The study by Vieno et al. concerning data from 24 European and North American countries focused on public policies (Vieno et al., 2018). Specifically, they investigated whether there was a correlation between cross-country differences in young abstinence trends and public expenditure on health and families with children. They found that more generous public expenditures on health services and family benefits was associated with an increase in the rates of adolescent abstinence across most developed countries.

Discussion

The first piece of information we could retrieve from this review were the reported prevalence rates. Given the lack of uniform definitions, as well as the diversity of the geographical regions covered and the age ranges considered, we, unsurprisingly, found that the prevalence of young non-drinkers reported in these articles varies considerably, from 5% to 50% in cross-sectional studies. Interestingly the three highest prevalence rates in the most recent waves of these cross-sectional studies were found in the research from Sweden. However, one explanation for this could be the low mean age of their sample rather than, or together with, cultural aspects (Larm, Åslund, et al., 2018; Larm, Livingston, et al., 2018; Svensson & Andersson, 2016). Besides these parameters, there were also issues regarding the heterogeneity of the methods these studies used: questionnaires were administered in different ways (online, paper), at diverse locations (school, home), and questions/definitions were not formulated in a uniform way. In addition, questionnaires about a putative sensitive question such as alcohol use during adolescence could

lead to biased answers when done at school, or at home when parents are present. The presence of parents or teachers may make it more likely that adolescents downplay their alcohol consumption (typically, if it is not allowed). Likewise, if their peers can see their answers, for example in a school setting, they may be more likely to exaggerate their consumption if such behavior would help boost peer approval (social desirability bias). In some instances, it could not be completely excluded that people who take an occasional sip of an alcoholic drink ranked themselves as non-drinkers and that the questionnaire could not detect this misclassification. As mentioned above, while the mean age of the cohort is obviously a factor explaining the wide range of observed prevalence rates, neither gender nor socioeconomic status seem to be decisive factors behind a young person's decision to abstain from alcohol. Therefore, the differences in prevalence rates observed across studies are unlikely to be attributable to differences between cohorts on these two parameters.

Despite the variety of studies examined in this review, the growing abstinence trend among adolescents and young adults was confirmed in all but one study, and this regardless of data collection methods, geographical area covered or mean age of the cohort. Interestingly Ng Fat et al. showed that the recent increase was attributable to an increase in lifetime abstainers rather than ex-drinkers (Ng Fat et al., 2018). The one exception were the Greek data derived from Vieno et al. (Vieno et al., 2018). The decline in abstainers seems to have occurred between the 2002 and the 2006 waves, before remaining stable thereafter. The sharpest increases in abstainer rates were seen in Ireland, Sweden and Norway. It is important to note that this paper investigated the relation between the trend and the level of public expenditure and found that the association was significant. It is therefore not surprising to see that the trend was more pronounced in countries with strong welfare state, pro-family policies like Norway or Sweden, and not significant in the

three more liberal countries (Croatia, Hungary and Slovenia), and lower in a country like Greece, which suffered a financial crisis between the two waves of the study.

It is important to highlight the difference between individual-level correlates of abstinence and population-level factors associated with changing alcohol abstinence trends. At the individual level, while parental monitoring increased in recent decades and was associated with alcohol abstinence, school performance and health outcomes remained stable. At the population level, however, a correlation was found between an increase in public expenditure on health and families and the abstinence trend, with no differences in social class composition. Although further research is needed on these associations, these results appear to underline the importance of promoting alcohol abstinence/moderation at different levels.

Few studies addressed the specific question of personal motivations. One study which looked at college students found that alcohol abstinence was motivated by lifestyle-related reasons. In contrast, drinkers reported situational reasons, such as the need to drive safely on a given day (Huang et al., 2011).

The reports on young abstainers that date before the year 2000 tend to present them as a marginal group who are not faring particularly well socially and mentally (Hoel et al., 2004; Laukkanen et al., 2001). This review about the recent upward trend in alcohol abstinence shows that these earlier findings no longer fully reflect the reality. First, their characteristics generally seem to rank young abstainers at the beginning of an alcohol consumption continuum rather than as an outlier group or a group similar to the other extreme (heavy/hazardous drinkers) (de Visser et al., 2014; Yuen et al., 2020). Moreover, the (Huang et al., 2009; Larm, Åslund, et al., 2018), and their abstinence is associated with multiple health benefits (de Visser et al., 2014; Larm, Åslund,

et al., 2018; Ng Fat et al., 2018). The contrasting point remains within the scope of the social aspect. First, abstainers seem to hang out predominantly with other abstainers, who represent a minority after a certain age (de Visser et al., 2014; Huang et al., 2011; Yuen et al., 2020). They make new friends less easily and therefore generally tend to have fewer close friends (Huang et al., 2009; Larm, Åslund, et al., 2018). One explanation could be that they are less likely to be members of a fraternity or similar social groups, which tend to see drinking rituals and drinking in general as a core value (Huang et al., 2009). The emerging and rising abstinence trend among adolescents and young adults could lead to changes in the structure of these social groups. Overall, the socializing aspect of alcohol consumption in general could explain the social deficit of abstainers. At the same time, Larm et al. showed that the abstainer's deficit with regard to making new friends tended to decrease from 2004 to 2012 (Larm, Åslund, et al., 2018). This observed trend could reinforce the hypothesis that abstainers were a somewhat marginal group but tends to "normalize" with the emerging abstinence wave.

Limitations

One limitation of this review, inherent to the available published literature, is the non-universal conclusion we can draw from these data. This is due to the fact that the 10 articles examined here focus exclusively on developed countries. Furthermore, nine of them represent four countries, including three which speak the same language and share certain cultural similarities (three from Sweden, and two from the US, the UK and Australia) (de Visser et al., 2014; Huang et al., 2011; Huang et al., 2009; Larm, Åslund, et al., 2018; Larm, Livingston, et al., 2018; Livingston, 2014; Ng Fat et al., 2018; Svensson & Andersson, 2016; Yuen et al., 2020). The multi-country study showed that discrepancies (no significant increase in young abstainers) appear between countries that are culturally and economically different from Sweden, US, UK and Australia (Vieno et al.,

2018). Overall, the abstinence trend is less sharp among Latin countries (Italy, Portugal, France) than in Northern European countries (Vieno et al., 2018).

A second weakness is that in the sample for the given country in several of the studies is non-representative. Six studies (Larm, Livingston, et al., 2018; Livingston, 2014; Ng Fat et al., 2018; Svensson & Andersson, 2016; Vieno et al., 2018; Yuen et al., 2020) aimed to use a sample that was representative of the nationwide situation, while the remaining four suffered from biased selection, either geographical (recruitment taking place only in one or a few counties instead of the entire country) or in favor of students (recruitment through schools/universities, thereby excluding young people no longer in education) (de Visser et al., 2014; Huang et al., 2011; Huang et al., 2009; Larm, Åslund, et al., 2018).

Future directions for research

The first axis for future research should be the cross-country harmonization of questionnaires on alcohol consumption. Specifically, abstainer status should be assessed in a non-ambiguous manner so that seldom-drinkers are not classified in the same category than strict abstainers.

The lack of data from the developing world indicates a need to explore whether the youth abstinence trend is observable in these countries too. Expanding the geographical reach of these studies to include Africa, Asia or South America would help to fill this gap.

Conclusion

Studying young alcohol abstainers in depth will lead to a better understanding and make it possible to better tailor public health prevention campaigns in order to increase the prevalence rates, and to further delay the age of drinking initiation. In order to favor this practice, more

public expenditure should be earmarked for health and families with children. Given the crucial role that parents play, efforts should also focus on raising parental awareness of best practices, which they could already implement when their children are still very young. Further research will not only characterize young abstainers around the world better and more broadly, but will also facilitate the identification of other measures to further promote such behavior.

The continuously growing rates of young non-drinkers should help to de-marginalize this group. Once youth abstinence reaches a critical mass, it will erase any residual social deficit that some young non-drinkers may still have.

Declaration of interest statement

The authors report there are no competing interests to declare

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