

Are alcohol-free liquor products a gateway to alcohol consumption?

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Introduction

There has been an increase in availability of alcohol-free liquor products at supermarkets and non-licensed retailers.

This report summarises the information on the impact of the availability and/or consumption of alcohol-free liquor products on alcohol consumption, and whether the availability of these products is potentially a gateway to alcohol consumption.

Evidence from the peer reviewed scientific literature is summarised below.

Research question

What is the association between the availability and consumption of alcohol-free liquor products and alcohol consumption?

Key words

The following key word combinations were entered into Google Scholar.

- alcohol free spirits OR wine OR beer OR drinks OR liquor AND consumption AND product availability AND alcohol consumption OR consumption
- availability alcohol free wine OR beer OR drinks OR liquor AND alcohol consumption
- availability AND no alcohol products AND increased alcohol consumption

Summary of key findings

The search identified seven peer reviewed journal articles that can contribute to answering the research question. The studies were all based in the UK and Britain, with no directly relevant research studies from Australia identified, other than a trend analysis of ethanol beer consumption across 2000-2016 in Australia and in New Zealand.

A top line summary of the evidence is provided below, with more detailed summaries of each article in the Evidence Summary section.

Selection and purchasing behaviour

Overall, there is little evidence to suggest that an increase in the options and availability of alcohol-free liquor products is a gateway to alcohol consumption or linked to increased alcohol consumption. That said, the majority of studies were carried out with consumers and markets in the UK, where, unlike Australia, alcohol is sold in supermarkets. Therefore, caution should be taken when applying these findings to Australian markets.

Following the introduction of alcohol-free liquor products, greater selection and purchasing of these products and a decrease in the purchasing of higher strength beer in the UK were observed^{1,2,3,4}.

One UK study concluded that alcohol-free liquor products are not a gateway to alcohol consumption, as less than one third of households that bought no- or low-alcohol beer went on to buy higher strength beer⁴. Further, for those households which had bought higher strength beer in the past, the introduction of no- and low-alcohol beer products reduced their purchasing of higher strength beer by one fifth⁴.

Marketing strategies of alcohol-free liquor product companies

There is some evidence, again from the UK, that retailers and producers are targeting no- and low- strength beer and wine products as options for groups that would not usually consume alcohol and for situations where alcohol is not usually present.

A journal-published opinion piece debated that while it may seem that alcohol free products help reduce alcohol consumption, there is little overall evidence to support this. Alcohol-free liquor products seem to be marketed not to replace traditional alcoholic products, but to increase the range of consumer types and number of occasions they are suitable for^{5,6}.

Two further UK studies support this notion. These studies found that no- and low-alcohol liquor products were marketed as drinks for occasions where alcoholic products have traditionally not been consumed, such as weekday lunches and fitness occasions⁶. A representative sample of the UK's population perceived alcohol-free products to be for non-drinkers, such as pregnant women, sports people and children⁷.

The only semi-relevant evidence identified from Australia and New Zealand were analyses of official data of ethanol beer sales. Mid strength beer (3.01-3.5% alcohol by volume) consumption increased and low strength beer (<3 % alcohol by volume) consumption decreased between 2000 and 2016, whereas mid strength beer consumption decreased substantially in New Zealand¹. Being six years old, however, these findings are relatively dated.

Evidence summary

Anderson et al. 2021¹

This review aimed to synthesise knowledge about no- and low- alcohol products and prevalence of purchase and consumption, health impacts, and consumer perceptions and preferences.

¹ Anderson, P., Kokole, D., & Llopis, E. J. (2021). Production, consumption, and potential public health impact of low- and no-alcohol products: results of a scoping review. *Nutrients*, 13(9), 3153.

Kypri, K., Harrison, S., & McCambridge, J. (2020). Ethanol content in Australian and New Zealand beer markets: exploratory study examining public health implications of official data and market intelligence reports. *Journal of studies on alcohol and drugs*, 81(3), 320-330.

The authors ran a scoping review of the literature in order to map the key areas in this broad research area. Original articles from 2011 to 2021 were included in the review search on PubMed and Web of Science.

Overall, the evidence identified was limited and not sufficient to inform policy. However, it did identify the following.

Low alcohol products had limited market penetration. In the UK, the introduction of no- and low-alcohol beers during 2017-2018 was associated with a low volume of purchases in 2018. In Australia, analyses of ethanol beer sales between 2000 and 2016 showed mid-strength beer consumption increased while low-strength beer consumption decreased, whereas in New Zealand mid-strength beer consumption decreased substantially (original article Kypri et al. 2020).

Only studies for no- or low-alcohol beer relating to consumption and purchase were identified. **Sales of no- and low-alcohol beers replaced sales of higher alcohol strength beers in the UK.**

The literature was too scarce to confidently draw any conclusions on the impact of such products on health. One review study examined the evidence base and identified three potential ways for how a reduction in alcohol strength would impact harmful alcohol use. One, current drinkers may replace standard alcohol products with similar products with lower alcohol content. Two, current drinkers may choose to replace their alcohol products with no-alcohol products at least some of the time. Three, lower strength alcohol products may initiate alcohol use by vulnerable groups, such as adolescents and current abstainers (however the latter finding appears to rely on one study which found that increasing alcohol excise taxation was associated with a decrease in drinking initiation in Thai youths, aged 15-24 years). **A British study of household purchase data found that no- and low-alcohol beers resulted in households purchasing fewer grams of alcohol overall.**

Several studies highlighted the importance of taste, prior experiences, brand, health and wellbeing, price, and overall decreases in social stigma with drinking alcohol-free products as reasons for uptake of such products.

Some marketing strategies have attempted to place no- or low-alcohol products into additional situations for consumers, e.g., lunch (for wine), outdoor events/barbeques (for beer), and on sport/fitness occasions (for beer) rather than in situations where the products might replace alcoholic products. While this is causing some concern, there is no evidence that this strategy is being used to market regular alcoholic products.

There were several limitations to this review. First, the articles included were not critically appraised for the quality of the evidence they provided. The review is limited by the small number of studies published in this area. The review methods only used two journal databases to search for relevant literature, so it is possible that some relevant studies were missed. Additionally, grey literature such as government reports were not included.

Blackwell et al. 2020²

This UK study aimed to investigate the effect of increasing the availability of no-alcohol liquor products compared to alcoholic liquor products on consumer selection.

Alcohol consumers (n = 808) were recruited online and randomly assigned to one of eight conditions in a 4 x 2 factorial design. The four alcohol availability conditions were 1 (two non-alcoholic, two alcoholic drinks); 2 (four non-alcoholic, four alcoholic drinks); 3 (six non-alcoholic, two alcoholic drinks) and 4 (two non-alcoholic, six alcoholic drinks). The two cognitive resource conditions were low (high time pressure) and high (low time pressure).

The results demonstrated that where there is a greater availability of non-alcoholic products compared to alcoholic products, consumers' selection of non-alcoholic products increased.

The limitations of the methods include the study being hypothetical and not a real-world scenario. Also, the study participants were recruited online and may not have comprised a truly representative sample of the whole population, therefore caution should be exercised when generalising the results.

Clarke et al. 2022³

The aim of this UK study was to estimate the effect of increasing the proportion of no-alcohol liquor products in comparison to alcoholic drink products, on selection and actual purchasing of alcohol.

The study used a randomised control trial design to test consumers' (n=607) selection of the following groups of alcohol and no-alcohol liquor products (total 64 options, 32 alcoholic and 32 non-alcoholic) from simulated and real online supermarkets. The groups were as follows - Group 1: *Higher Proportion* (75% non-alcoholic, 25% alcoholic); Group 2: *Same Proportion* (50% non-alcoholic, 50% alcoholic); Group 3: *Lower Proportion* (25% non-alcoholic, 75% alcoholic).

Significantly increasing the availability of no-alcohol liquor products reduced the selection and purchasing of alcoholic products. The *Higher Proportion* (75% non-alcoholic, 25% alcoholic) group selected 10 fewer alcohol units than the *Lower Proportion* (25% non-alcoholic, 75% alcoholic) group.

² Blackwell, A. K., De-Loyde, K., Hollands, G. J., Morris, R. W., Brocklebank, L. A., Maynard, O. M., ... & Munafò, M. R. (2020). The impact on selection of non-alcoholic vs alcoholic drink availability: an online experiment. *BMC Public Health*, 20(1), 1-9.

³ Clarke, N., Blackwell, A. K., Ferrar, J., De-Loyde, K., Pilling, M. A., Munafò, M. R., ... & Hollands, G. J. (2022). Impact on alcohol selection and purchasing of increasing the proportion of non-alcoholic versus alcoholic drinks: randomised controlled trial. *medRxiv*.

At the time of writing the article was a pre-print and had not been peer reviewed. Other limitations included significant participant attrition between drink product selection and purchasing. That said, attrition was similar across all groups and study conditions.

The selection and purchasing scenario differed from real-life in that it involved a two-step process. Consumers had to select the drink product on an online site, then carry through to purchasing it from an online supermarket where other drinks choices outside of the study selection were available. Additionally, the group demographics were mostly of higher socioeconomic position, indicating the reduced generalisability of these findings to disadvantaged populations.

Llopis et al. 2022⁴

The aim of this study was to examine whether buying new beer products that were no or low in alcohol increased or decreased household purchasing of same-branded higher strength beers in Britain. To test this, purchase data from a large number of households (64,280) between 2015 and 2018 were examined.

Time series analyses showed that the introduction of new no- and low- alcohol beer products were not a gateway to increased alcohol consumption.

Households that had never previously purchased the higher strength beer of the same brand but did purchase the no- or low- alcohol beer product were less likely to go on and buy the higher strength beer in the future. If some of these households did go on and purchase the higher strength beer, it was in quantities half as much as households which had not bought no- or low-alcohol strength beer products.

Additionally, for households who had bought high strength beer in the past, the introduction of the no- and low-alcohol beer products was associated with a reduction in their purchased volume of higher-strength beer by one fifth.

The results of the study should be considered in the context of the methodological limitations. As the panel company requires participants to purchase items, take them home and then scan them, some products are underreported. Alcohol purchases are one of the most underreported categories in the panel data. The study only considered off-trade beer purchases which account for just under half of all beer purchases. Underage alcohol purchases were not recorded. Also, no- and low-alcohol beer products accounted for a small percentage of market share at the time of the study (1.5% no alcohol). The study tested the introduction of six new beer products from one company only. This accounted for only 14% of all possible different products and 45% of the volume of no- and low- alcohol beer products purchased.

⁴ Llopis, E., O'Donnell, A., Kaner, E., & Anderson, P. (2022). Are Lower-Strength Beers Gateways to Higher-Strength Beers? Time Series Analyses of Household Purchases from 64,280 British Households, 2015–2018. *Alcohol and Alcoholism*.

Miller et al. 2021⁵

While not an empirical research piece or peer reviewed, this journal-published commentary suggests that alcohol-free liquor products may contribute to reduced alcohol consumption. However, it also argues that there is a lack of evidence to support this theory. There is concern that no-alcohol liquor products are not a substitute for alcoholic products, as marketing often targets non-drinkers, such as pregnant women and drivers, and are available for purchase by minors.

The commentary concludes with the need for more research into who is buying and drinking no-alcohol liquor products, in what locations, and their effect on alcohol consumption in order to inform regulatory policies in Australia.

Vasiljevic et al. 2018⁶

This study investigated the target audience of companies advertising no-alcohol liquor products in the UK. A content analysis of marketing messages was carried out for low alcohol products, and regular strength wine and beer products sold online in 2016. This involved analysis of 86 webpages for low strength and regular strength alcohol products.

Four main themes were found: (1) suggested occasions for consumption, (2) health-related associations, (3) alcohol content, and (4) taste. Lower alcohol liquor products were commonly marketed as drinks suitable for lunchtimes (wine), BBQs (beer), and sport and fitness (beer) occasions. Low alcohol products were often marketed with images and text related to health, such as fruit and low-calorie count, and with information about their alcohol content.

These marketing strategies indicate that low alcohol liquor products are marketed not as substitute drinks for people who consume alcohol, but as alternative and additional occasion drinks.

This study was hindered by the sampling frame used (webpages from the four main UK supermarkets and the producers of the drink products), limiting the generalisation of the findings beyond the country and companies analysed. Only the lower strength beer and wines found in the four main supermarkets in the UK were included in the content analysis. Other websites and social media platforms may also market such products but were not included in the analyses.

⁵ Miller, M., Pettigrew, S., & Wright, C. J. (2022). Zero-alcohol beverages: Harm-minimisation tool or gateway drink?. *Drug and Alcohol Review*, 41(3), 546-549

⁶ Vasiljevic, M., Coulter, L., Petticrew, M., & Marteau, T. M. (2018). Marketing messages accompanying online selling of low/er and regular strength wine and beer products in the UK: A content analysis. *BMC Public Health*, 18(1), 1-7.

Vasiljevic et al. 2019⁷

The aim of this study was to examine what the perceived target groups and occasions for low alcohol liquor products are. To do this, the authors sampled 3,990 adults who were wine and beer drinkers from a nationally representative panel in the UK. Participants were randomised into 18 groups and judged which type of person would find the randomised drink choice (low and super low alcohol liquor products and alcohol products of six different alcohol strengths, presented as per cent of alcohol by volume) appealing and on what occasion.

Overall, the results were that **participants thought pregnant women, sports people and children were the main target groups for no-alcohol liquor products. They were also considered suitable for occasions such as weekday lunches.**

The results indicate that no-alcohol liquor products were perceived as additional drinks to be consumed by people and for occasions where alcoholic products are not suitable. This suggests that these products are not replacing the target groups for which, or occasions where, alcoholic drinks would usually be consumed.

The results however should be considered in conjunction to the following limitations of the methods. The study was carried out with a nationally representative sample from the UK, so it is not known whether the findings can be generalised to other cultures. The study used a fictitious brand of liquor products, and therefore future studies should test how participants are influenced by branded products of varying degrees of alcohol strength. The questions were hypothetical and did not measure behaviour that was actually carried out by consumers.

⁷ Vasiljevic, M., Couturier, D. L., & Marteau, T. M. (2019). What are the perceived target groups and occasions for wines and beers labelled with verbal and numerical descriptors of lower alcohol strength? An experimental study. *BMJ Open*, 9(6), e024412.