

Alcohol Abuse Within High-Income Groups in Denmark

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## **ABSTRACT**

In order to address the public health issue of alcohol abuse in Denmark, we chose to address the following research question: “When implementing measures to impact alcohol abuse in Denmark, what barriers exist in reaching high-income groups?” We developed this question after conducting an interview with the Rudersdal Kommune’s Health Coordinator. After finalizing this research question, we then looked at Danish literature and statistical databases in order to learn more about the topics of alcohol abuse and income levels, thus attempting to draw conclusions regarding a possible relationship between the two variables. After focusing on a single population of interest, Rudersdal Kommune, we determined that the Rudersdal Kommune’s preventative measures did not effectively impact alcohol abuse within the high-income group. Therefore, in order to direct future efforts for alcohol abuse prevention, one must address the barriers that prevent current intervention programs from reaching those within the high-income group.

## **INTRODUCTION**

Alcohol abuse seems to be a public health issue in Denmark. In a recent publication by the World Health Organization, it was reported that approximately 38% of men and 20% of women in Denmark are classified as heavy drinkers (WHO, 2004, p. 1). In the study, heavy drinking was defined as consuming more than 60 grams of pure alcohol on at least one occasion in the past month (WHO, 2004, p. 1). This consumption of 60 grams of alcohol can be defined as the consumption of approximately 4 standard alcoholic drinks, for one standard alcoholic drink is estimated to have approximately 14 grams of alcohol (Linus Pauling Institute, 2015).

However, the definition of alcoholism and alcohol abuse is largely a socially-determined one. The Danish Health Authority recommends a maximum weekly alcohol intake of 7 units for women and 14 units for men (Danish Health Authority, 2014). This differs significantly from the WHO's definition of heavy drinking. Thus, the meaning of the term "alcohol abuse" is largely dependent on cultural context, a fact that must be considered when assessing all data.

Alcohol abuse is a problem on many levels, for it is shown to negatively impact both alcohol abusers and communities at large. On the individual level, excessive consumption of alcohol is correlated with an increase in the incidence of a multitude of illnesses and disabilities, sometimes even leading to death (APHA, 2012, p. 2) On the broader community level, alcohol abuse has been shown to negatively impact a nation's economy by increasing societal spending on healthcare and social services while simultaneously endangering the community's overall public safety (APHA, 2012, p. 5).

During an interview with the Rudersdal Kommune project coordinator, Ina Skafte, we determined that the municipality's current public health plan targets alcohol abuse within the overall population. However, since this municipality is one of the wealthiest municipalities in Denmark, we were curious to explore how alcohol abuse within specifically wealthy populations is impacted by preventative measures. Thus, we hope to answer the following research question:

**When implementing measures to impact alcohol abuse in Denmark, what barriers exist in reaching high-income groups?**

Our study is based on the hypothesis that there may be a relationship between the variables of alcohol consumption and income level. We will thus begin our study by focusing on the larger issue of alcohol abuse in Denmark. To then address the nuances of alcohol abuse, we

have chosen to focus the high-income area of the Rudersdal Kommune. By studying this high-income community as our population of interest, we hope to comment on the relationship between high-income populations and alcohol abuse. Once this relationship has been characterized, we will be able to describe current preventative measures targeting alcohol abuse within the Rudersdal Kommune. Finally, we will be able to comment on the effectiveness of these preventative measures targeting alcohol abuse.

## **METHODS**

In order to assess the extent to which preventative measures impact alcohol abuse among high-income groups in Denmark, it was necessary to gather pertinent research, data, and sources. Our primary source of information was our interview with Ina Skafte, Health Coordinator for the Rudersdal Kommune. During the interview, we aimed to learn more about the role of the municipality in public health, especially considering the topics of prevention, income level, and alcohol abuse. We were also able to send follow-up emails to supplement the interview.

After determining our research question, we used Danish databases and global articles, along with other sources, to gather demographic information about the relationship between income level and alcohol abuse. Material was then included or excluded in our findings based on both the relevancy and reliability of each source. Our aim was to gather data on the levels of alcohol abuse in the Rudersdal Kommune and then relate this data to the municipality's income level. Furthermore, we intended to obtain data that indicated the effectiveness of any preventative interventions that were implemented. From there, we analyzed the data to determine

how income level is related to alcohol intake in Denmark and the impact of existing preventative methods.

## **ANALYSIS**

### **Case Study: Rudersdal Kommune**

For the purpose of analyzing the correlation between alcohol abuse and consumption levels, we conducted a case study on the Rudersdal Kommune, located within Region Hovedstaden. This population experiences both relatively higher income levels and higher rates of alcohol abuse in comparison to other municipalities in Denmark (Statistics Denmark, 2014). The Rudersdal Kommune has the highest disposable income of all municipalities in Denmark (Statistics Denmark, 2014). According to the National Health Profile of 2010, 29% of citizens in the Rudersdal Kommune engaged in risky alcohol behavior, which is defined as drinking more than five drinks on one occasion at least once a week, or having signs of alcohol dependence. Contrary to representing Denmark as a whole in our case study, the Rudersdal Kommune serves as our population of interest so that we can better observe alcohol usage among high-income groups.

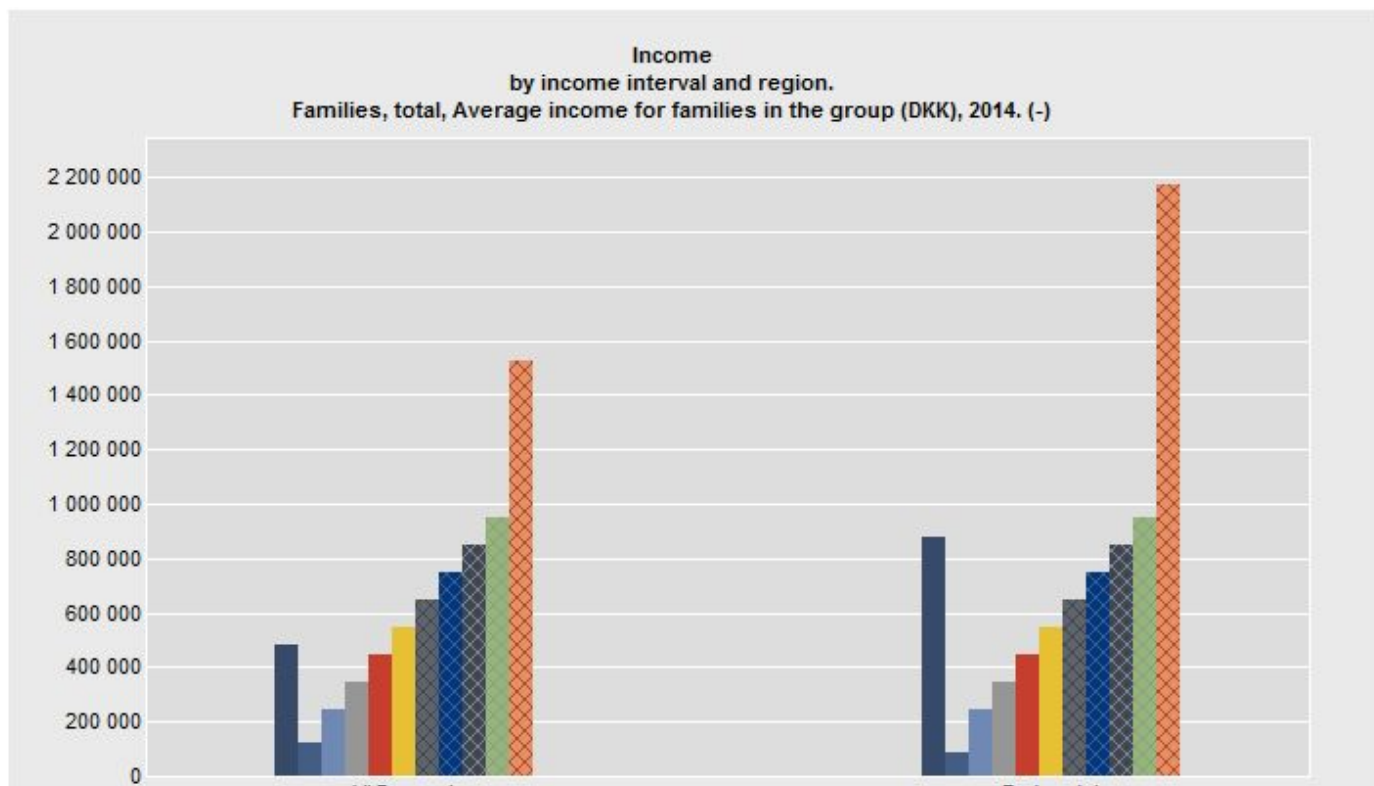
### **Income in Relation to Alcohol Consumption**

Our interview with Ina Skafte revealed that alcohol abuse is a major challenge within the municipality. Skafte works at the Rudersdal Kommune and has a Masters in Public Health with a concentration in monitoring and evaluating projects. She has several years of experience in quality assurance and project management of health promotion. Workers at the Kommune are

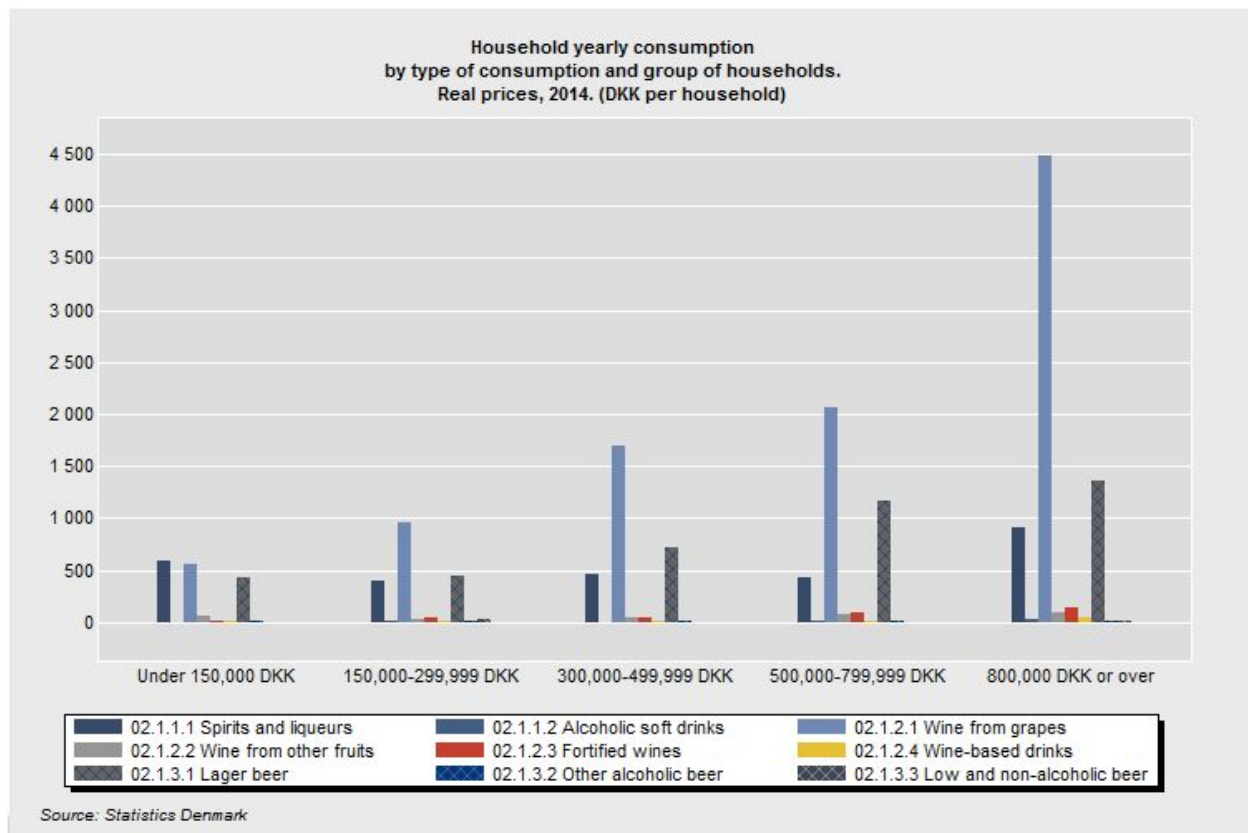
aware that alcohol abuse is a major problem and have thus implemented several preventative interventions. Some examples that Skafte offered included workshops for employees of the Kommune to pass knowledge on to community members. Additional interventions included fundraising for an abuse center, e-learning, and projects to ensure that youth do not start drinking prematurely. As previously stated, Skafte also mentioned that the Rudersdal Kommune has a particularly high-income population, and this characteristic may be linked to its higher prevalence of alcohol abuse.

Compared to Denmark's average income, the income levels of families in the Rudersdal Kommune are above average. This can be seen in Graph 1. Due to the high number of families with incomes of 1 million DKK or more, the average income of the Rudersdal Kommune is much higher than that of Denmark. While Denmark's average annual income is 480,979 DKK, the average annual income for the Rudersdal Kommune is 877,067 DKK (Statistics Denmark, 2014).

**GRAPH 1: Income by Income Interval and Region**



**GRAPH 2: Household Yearly Consumption by type of Consumption and Group of Households**



In addition to comparing the income level of the Rudersdal Kommune to that of Denmark, it is necessary to juxtapose alcohol consumption to income levels in Denmark on a national scale. Graph 2 depicts the relationship between income level and alcohol consumption. From looking at the graph, a positive trend is observed: as income level rises, the consumption of alcohol also rises (Statistics Denmark, 2014). What can be observed from the graph is that alcohol consumption is, on average, much greater in high income groups than in low income groups. It is important to note however, that “consumption” refers to the amount of money spent on alcohol, not to the volume of alcohol purchased. With this in mind, this graph may be

misleading. Further analysis may be necessary to determine if those in a high income group are in fact buying more alcohol in volume, or if they are simply buying more expensive alcohol. As alcohol can range vastly in price, these costs could have a major effect on the amount spent on alcohol. The question then becomes, are higher income groups buying more alcohol, or are they simply buying more expensive alcohol?

Since there seems to be a trend between income level and alcohol consumption, excise tax rates on beer, wine, and spirits have fluctuated, enabling a study of whether or not change in price affects level of consumption. One study examined the level of consumption between 2003 and 2006 when the excise tax on spirits was lowered by 45% (Grittner et. al., 2009, p. 1). The data collected showed that consumption levels remained relatively stable regardless of the excise tax rate. This article concluded that individuals in high income groups are able to afford alcohol, regardless of the tax rate. This suggests that higher excise tax rate primarily affects those in lower income groups. However, more research must be conducted on this topic in order to determine the effect of excise tax rate on level of alcohol consumption. Further studies may include examining the effects of excise taxes on more specific populations i.e. various locations, or different income levels. This may allow for a clearer understanding of the impact of an excise tax.

### **Alcohol Abuse Prevention Efforts**

In our interview with Ina Skafte, she explained that one of the municipality's current alcohol prevention programs focuses on educating its employees. In 2013-2014, the municipality "offered a four day training to 120 employees from all administrative departments, including



employees working with daycare, schools, people with disabilities, unemployed residents, elderly care, cultural and leisure activities etc” (Skafté, in-person interview, 2016). As a part of this program, over 100 employees of the Rudersdal Kommune engaged in workshops in which they were trained to motivate citizens to participate in treatment for their alcohol abuse. It also informed the Kommune’s employees on early detection of alcohol abuse at both the individual and familial levels.

As Birgitte Schjerning Povlsen, Chairman of the Social and Health Affairs in 2013, states: "It is vital that employees feel prepared for this one task, since experience shows that even a short advisory conversation may have important implications for whether the citizen seeks help" (*Rudersdal Avis*, 2013, November 29, translated from Danish). As the employees’ daily work involves interacting with those who need the Kommune’s services, the expected target group for this intervention is adults, for they wield greater autonomy to seek such municipal services.

In addition to an event targeting employees, the Rudersdal Kommune put on an event focusing on alcohol abuse and its affect on families. The event, held on October 6, 2015, explored alcohol abuse in high-income and low-income parts of Denmark and featured Lisbeth Zornig Andersen and Lotus Turrell. Turrell, an economist and author, came from the creative upper class in the Capital Region. In contrast, Andersen, an author, project manager, and consultant, originated from an orphanage in Denmark’s Lolland region. Ina Skafté detailed the event in an email sent on October 7, 2016:

“In 2015 we held an event with two known speakers (Lisbeth [Zornig] Andersen and Lotus Turrell) with 250 participants. They held inspiring talks on growing up with their

parents' alcohol abuse and the taboos related to it. The event was held as part of the yearly national alcohol-campaign and was widely advertised. Entrance was free and no specific target group was identified.”

In the lecture, Andersen and Turrell shared the consequences of a childhood filled with alcohol abuse and neglect. Their lecture explored whether it was less difficult for one speaker to break the patterns of abuse and neglect in order to become a successful citizen, as a result of their privileged background. Another aspect of their lecture involved low-income children's perception of alcohol abuse and neglect in comparison to that of high-income children. Andersen discussed how there is a focus on neglected or abused lower-income children, but she is afraid that society has become blind to those same children from the upper classes. This event additionally featured resources for alcohol abuse. As entry to the event was free, there was a lack of barriers as to who could attend this event. It is difficult to determine the extent to which this event targeted high-income groups. Since it featured someone from a higher socioeconomic class, it may reflect Leon Festinger's (1954) concept of social comparison theory, in which people compare themselves to those similar to themselves for self-evaluation. Therefore, by including someone from a higher-income background, event attendees with similar demographics will be able to better identify and evaluate whether they or a family member are currently experiencing alcohol abuse. By providing a speaker that is from a higher-income group, the municipality was able to target this same group by displaying the nuances of alcohol abuse within this population.

### **Advantages and Disadvantages of Interventions**

By targeting employees of Rudersdal Kommune, the municipality is able to effectively incorporate alcohol abuse prevention efforts across departments. This increases awareness of the trend as an issue. Similar to the concept of “health in all policies,” an inclusive workshop recognizes the integratedness of the issue in various levels of municipal administration.

On the other hand, a disadvantage of this four-day workshop is the lack of consistent education for the employees. Though difficult to determine, it is unlikely an annual four-day workshop on alcohol abuse detection is sufficient for gaining knowledge on and reinforcing this information. As we will further discuss below, the actual effectiveness of this program in identifying and connecting alcohol abusers to needed services is also indiscernible due to the lack of captured information related to the program.

The Rudersdal Kommune’s event on alcohol abuse in upper- and lower-class families is beneficial as it displays the colors of abuse in different settings. As stated by Ina Skafte in an in-person interview, alcohol abuse sometimes isn’t viewed as problematic in the Rudersdal Kommune because abusers are often able to still function within society (2016, in-person interview). The event recognizes alcohol abuse within high-income groups, which is an important step towards progress on the issue of alcohol abuse within this population. The event’s size also signals that it was advantageous in targeting a large group of community members. The extent to which the lecture benefited the community was limited, however, due to the first-come, first-served registration.

## **DISCUSSION**

### **Income in Relation to Alcohol Consumption**

Given the data that has been collected on income rates and alcohol consumption in Denmark, a trend can be discerned: a positive correlation between income and alcohol consumption (Statistics Denmark, 2014). Though the data presented points to this conclusion, in order to be certain, it may be necessary to conduct further research. Firstly, p-values should be measured in order to determine the data's significance. In other words, does the alcohol consumption in high income groups differ significantly from that of lower income groups? Moreover, it is not simply enough to declare causation after noticing a trend. While an association between alcohol consumption and income level may be confirmed, more research and investigation is necessary to draw any final causal conclusion.

Aside from further analysis on the currently available data, it may be necessary to introduce studies that use qualitative methods in order to gain a fuller picture of alcoholism in high income groups. Rather than simply looking at the quantitative data, it may be useful to conduct interviews or organize focus groups. This kind of research may help pinpoint the source of the issue of alcohol abuse.

Finally, as previously discussed, the definition of "consumption" is misleading. Spending more money on alcohol does not necessarily indicate that more alcohol by volume is being consumed. Prices of alcohol vary greatly-- one bottle of expensive wine could be equivalent in price to upwards of one hundred cans of beer. Further qualitative and quantitative research must be conducted in order to truly determine the consumption by volume rates of higher income groups compared to that of lower income groups.

On the topic of excise taxation as an intervention for reducing alcohol consumption, we also recommend further research. Studies studying the broader population, as well as studies

examining various populations, could prove to be useful in determining the effects of an excise tax on alcohol consumption. Current research seems to show that there is no relationship between implementation of an excise tax on alcohol and levels of alcohol consumption. However, the reasoning for this conclusion may be varied, and it is based solely on statistics. It may also be useful to dig further into the problem by observing how the excise tax qualitatively affects individuals. Interviewing may be a useful research tool for gaining this information. Without this further research, no concrete conclusion can be drawn regarding the effectiveness of an excise tax.

### **Barriers in Targeting High-Income Groups**

Though difficult to determine without data on outcomes, the alcohol prevention programs do not seem to positively impact higher-income groups. This is due to the barriers that exist when targeting this population. In the case of the employee education program, it is important for the municipality to determine the demographics of residents who regularly visit the Kommune for assistance. As seen in a study by Gundgaard (2006), it is uncertain whether high-income groups are targeted through such an intervention as they tend to have lower utilization rates of public services, especially in relation to health. The Kommune may have difficulty in reaching this population through the first intervention of employee education as employees may not have as regular of contact with higher-income groups in their daily work.

One possible barrier to targeting high-income groups is their perception of high levels of alcohol consumption. In order to understand alcohol abuse within a community, it is important to observe the social acceptability of high levels of alcohol consumption. Among member states of

the EU, Denmark expresses the lowest level of support for alcohol-related interventions such as warnings on advertisements (64%) and warning messages on bottles (European Commission's Eurobarometer, 2010). On a local level, Ina Skafte indicated that some of Rudersdal Kommune's residents have a relatively nonchalant view of alcohol abuse. She stated that many alcohol abusers are considered "functional," in that they can hold a job and be productive, and therefore their behavior isn't seen as debilitating or problematic (Skafte, in-person interview, 2016). Even with this information from Skafte and the European Commission, it is difficult to determine whether high-income groups in particular hold this view. The attitudes of Rudersdal Kommune residents towards the overconsumption of alcohol presents important implications for the methods by which the municipality chooses to approach alcohol abuse prevention.

## CONCLUSION

The purpose of this study was to determine whether preventative efforts affected rates of alcohol abuse. We were specifically curious whether high-income groups were targeted by preventive measures. By studying the Rudersdal Kommune population in detail, we were able to point at the effectiveness of alcohol abuse preventative efforts for decreasing alcohol abuse within the high-income population.

As depicted by our analysis of the Rudersdal Kommune, there is a positive correlation between income level and alcohol consumption. However, preventative efforts do not seem to be effective, for they engage with municipal workers rather than focus on the municipal citizens themselves. Alcohol abuse is of particular importance to address, for it is proven to cause many health problems on both physical and mental levels (APHA, 2012, p. 2). On a societal level, the

issue of high alcohol consumption may lead to unproductive citizens and an overall unhealthy population, which would cause problems in the realm of public health. If alcohol abuse remains a problem in these high-income areas, health-related funding must be redirected from other areas of need.

A potential solution to this problem of alcohol abuse within high-income groups is an alternative initiative. Since the high-income population rarely believes that their alcohol abuse will negatively impact their own lives, perhaps it would be beneficial to focus on how alcohol abuse will negatively impact the lives of those around them. This initiative could be put in place by running an advertisement campaign that has statements such as: “Your alcohol consumption may not be a problem for you, but have you thought about how it may affect your children?” This alternate measure would hopefully cause high-income alcohol abusers’ within the Rudersdal Kommune to evaluate their habits and possibly curb their alcohol consumption.

Since high income seems to correlate with high rates of alcohol abuse, alternate initiatives need to be implemented in order to encourage high-income populations to drink less and therefore maintain a healthier lifestyle. However, it is difficult to gather data on levels of alcohol abuse within the high-income population of the Rudersdal Kommune, primarily due to the fact that high-income groups remain socially functional despite their alcohol abuse. Thus, a difficulty in addressing this group is the apathetic attitude with which they perceive excessive alcohol consumption. Despite the knowledge that high-income groups are particularly at risk for alcohol abuse, the Rudersdal Kommune does not seem to target high-income populations during preventative efforts. Thus, in order to respond to the ineffectiveness of current intervention

programs, the Rudersdal Kommune needs to change the manner by which it attempts to prevent alcohol abuse within its high-income citizens.



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