



Cigarette Displays Around the School Area and Cigarette Sales in the School Area

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Track Record Article	Abstract
<p>Accepted: 15 August 2023 Revised: 11 September 2023 Published: 20 September 2023</p> <p>How to cite : Hayati, F., Siregar, P. A., Nurhayati, Mohammed, N., Ahsan, A., & Arrazy, S. (2023). Cigarette Displays Around the School Area and Cigarette Sales in the School Area. Contagion : Scientific Periodical of Public Health and Coastal Health, 5(3), 1039–1045.</p>	<p><i>The tobacco industry continues to promote tobacco through cigarette displays, especially in areas easily accessible to youth and school students. One of the tactics that cigarette companies keep using is cigarette displays around the school area. This study aimed to determine the impact of cigarette displays around schools on cigarette sales in the school area. This study was conducted on cigarette sellers around schools in Medan City. This study was conducted on 18 cigarette sellers for 14 days. The interventions given were cigarette displays covered with cloth, cigarette displays hidden, and cigarette displays without intervention. Data analysis was conducted using an ANOVA test using JASP version 17. The results showed a difference in total sales between cloth-covered displays, hidden treatments, and no intervention (ANOVA test $p = 0.015$). The results showed a difference in sales profit between cloth-covered displays, hidden treatments, and no intervention (ANOVA test $p = 0.004$). The provision of interventions on cigarette displays treated as hidden reduced average cigarette sales in cigarette stores. Intervention in cigarette displays covered with cloth reduced average cigarette sales in cigarette stores. The Medan City Government should regulate cigarette displays at cigarette stores around the school area to reduce cigarette consumption among students. The Education Office and schools should collaborate with cigarette sellers around the school area to stop the display of cigarettes and not sell cigarettes to students.</i></p> <p>Keywords: <i>Cigarettes, Cigarette displays, Cigarette stores, School area</i></p>

INTRODUCTION

Lower-income neighborhoods experience increased tobacco marketing, with menthol targeting urban and Black residents, while smokeless tobacco products are more targeted to rural and white areas (Marpaung, 2022a). Store type differences contribute to these disparities (Lee, 2015). E-cigarette manufacturers like V2 Cigs expand globally, targeting Europe, India, Africa, and the Middle East. Limited research on retail advertising and promotion remains (Ganz, 2015).

Major tobacco companies have introduced e-cigarette and e-cigar brands, expanding retail distribution in the past year, according to reports (Ganz, 2015). Evidence supports a positive association between POS tobacco promotion and smoking, supporting POS display bans in introduced jurisdictions and encouraging similar policies in non-banning areas (Robertson, 2015). Survey reveals convenience store popularity among youth, with age, African-American, rural, and neighborhood deprivation being significant risk factors. New

policies needed for healthier retail environments (Sanders-Jackson, 2015).

The Retail Advertising Tobacco Study (RATS) survey analyzed data from licensed New York State tobacco retailers, focusing on exterior and interior promotions and store advertising(Waddell, 2016) . Youth-rich neighborhoods have higher menthol cigarette point-of-sale marketing, despite nonmenthol brand marketing. The study links adult smoking disparities to poverty, race/ethnicity, and tobacco use disparities, highlighting age-related and product preferences. Disparities may be attributed to the tobacco retail environment's negative impact on disadvantaged adult populations (Glasser, 2022).

A systematic review found 12 peer-reviewed articles examining the impact of point-of-sale tobacco promotion on smoking initiation among children and adult smokers. Evidence shows a positive association, but gaps need further research on advertising, quitting, and POS display bans (Paynter, 2009). Evidence supports a positive association between exposure to POS tobacco promotion and smoking, with consistent findings across various methods and measures. This review supports the continuation of POS tobacco display bans in introduced jurisdictions and encourages similar policies in remaining jurisdictions (Robertson, 2015).

Smoking negatively impacts public health, with most developed nations having tobacco control policies for young smokers(Marpaung, 2020); (P. A. Siregar, 2021) . Predict tobacco use will cause 6.4 million deaths in 2105, accounting for one-tenth of global deaths. They support international health policy to prevent tobacco-related deaths (Pereira, 2014).

Retailer marketing contributes to tobacco use disparities in lower-income and Black neighborhoods, requiring clinicians to be aware of environmental cues (Lee, 2015). All of the major tobacco companies have recently introduced their own e-cigarette and e-cigar brands into the tobacco marketplace or have plans to do so in the near future. News reports suggest that tobacco and e-cigarette companies have begun to significantly expand e-cigarette product distribution in retail channels in the past year.

Point-of-sale (POS) advertising is effective in promoting cigarette consumption, especially among younger consumers. Research shows that 15-16-year-olds are more likely to become smokers due to high awareness, perception, and involvement in POS promotion of tobacco products. This advertising is prevalent in retail establishments frequented by children and adolescents, with 94% of 585 retail stores surveyed in the US. Long-term exposure to POS marketing communication tools can affect smoking behavior, as a study found that two-thirds of high school students visited a convenience store or grocery store at least once a week, increasing their likelihood of smoking at some point in their lives.

METHODS

This research uses a quantitative design with an experimental approach. This research was conducted from April 2023 to August 2023. This study was conducted in Medan City, with 18 cigarette sellers around the school. Cigarette sellers will be given the treatment of hiding cigarettes, closing cigarette displays, and not being given any treatment as a control.

The Intervention of cigarette displays is expected to impact cigarette sales at cigarette sellers. This study will collect data on the number of cigarettes that sell out in 14 days, the types of cigarettes that sell, the location of cigarette displays, and cigarette advertisements in cigarette sellers' shops. Data was collected by asking cigarette sellers about cigarette sales, types of cigarettes sold, and daily sales profits for 14 days using a structured questionnaire prepared beforehand. Researchers also observed cigarette sellers' cigarette displays during the observation.

Researchers used enumerators to help collect data in this study. Researchers completed this study by conducting perception equations and participation commitments with cigarette sellers. Researchers also gave gifts to cigarette sellers willing to participate in this study, especially those willing to intervene in cigarette displays in their stores. This study used an open-ended questionnaire instrument, which included the total number of cigarette sales and the total cigarette income of cigarette sellers.

This study will use univariate data analysis to determine the frequency distribution and percentage of cigarette displays and cigarette sales among cigarette sellers. Bivariate analysis in this study was conducted to determine differences in cigarette sales among cigarette sellers who were given and not given interventions. Bivariate analysis will be carried out using JAPS software version 17 by analyzing data using the ANOVA test with 95% CI.

RESULTS

Table 1. Mean Number of Cigarettes Sold per Pack and Sales Profit (IDR)

Variable	Mean	P
Intervention	Mean Number of cigarettes sold per pack	
Not Intervention	112.89	
Cloth Covered Display	86	0.015
Treated Hidden	70.36	
Intervention	Sales Profit (IDR)	
Not Intervention	161.130	
Cloth Covered Display	246.666	0.004
Treated Hidden	118.952	

The results showed a difference in total sales between cloth-covered displays, hidden treatments, and no intervention (ANOVA test $p = 0.015$). Providing treated hidden intervention is proven to reduce cigarette sales (mean cigarette sales = 70.36) and cloth-covered display (mean cigarette sales = 86) compared to not giving cigarette display intervention (mean cigarette sales = 112.89).

The results showed a difference in sales profit between cloth-covered displays, hidden treatments, and no intervention (ANOVA test $p = 0.004$). Providing treated hidden intervention is giving sales profit (mean sales profit = 118.952 IDR) and cloth-covered display (mean sales profit = 246.666 IDR) compared to not giving cigarette display intervention (mean sales profit = 161.130 IDR).

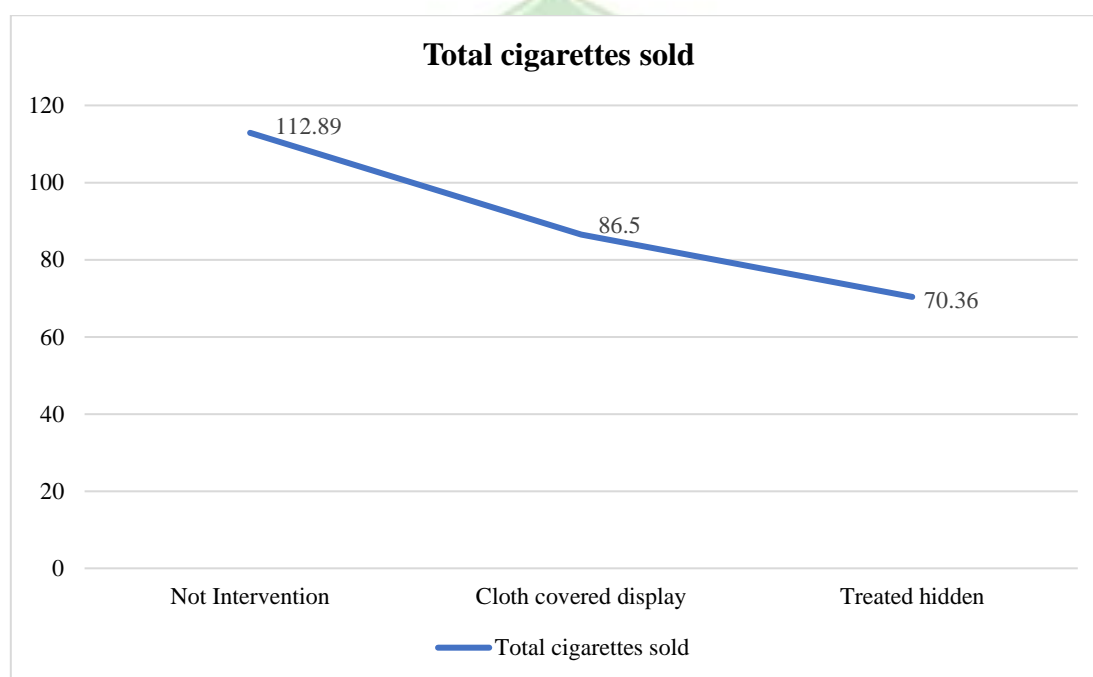


Figure 1. Grafik: total cigarettes sold with display intervention

The results of this study showed a significant difference in average cigarette sales for each cigarette display intervention in cigarette stores.

DISCUSSION

Tobacco display bans face opposition from the industry, so data on their impact should guide legislators (Nasution, 2020). Countries with successful bans have linked them to declines in adult smoking prevalence and individual-level effects (Kuipers, 2017); (Marpaung, 2022b); (R. A. Siregar, 2022). Tobacco display bans face resistance from the industry, but data on their impact can guide legislators. Countries with successful bans have shown declines in adult

smoking prevalence, but no analyses have considered children's impacts (He Y, 2018); (Nurhayati, 2022).

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A higher percentage of IQOS-carrying individuals had special displays and interacted with salespeople. Promotions included financial incentives and price reductions. Most had favorable attitudes towards IQOS, opposition to legislation, limited government assistance, and industry compliance (Bar-Zeev, 2023). The Study Edwards (2017) shows that between 2011 and 2014, smoking experimentation decreased current smoking prevalence. The proportion of smokers who attempted to purchase cigarettes within the past 30 days decreased significantly. Positive associations between tobacco store visits and smoking-related behaviors weakened after implementation.

Most smokers start their habit as children, and reducing the number of children who start smoking is crucial for a "smoke-free generation." Implementing point-of-sale display bans can reduce the visibility and appeal of tobacco products, as exposure to retail tobacco displays increases the desire to smoke and unplanned purchases (Siahpush, 2016b). Children aged 2-5 are particularly susceptible to tobacco marketing, which can influence their behavior and perceptions of smoking's acceptability and peer smoking rates (Lavery, 2018); (Siahpush, 2016a); (Nasution, 2019).

Despite progress in reducing tobacco use, disparities persist by socioeconomic status and race/ethnicity. The 2013-2014 National Adult Tobacco Survey shows 32% of adults without a high school degree or earning less than \$20,000 use tobacco, compared to 10% of college graduates and 12% of those with \$100,000 or more incomes (Ribisl, 2017).

The results showed a difference in sales profit between cloth-covered displays, hidden treatments, and no intervention (ANOVA test $p = 0.004$). Providing treated hidden intervention is giving sales profit (mean sales profit = 118.952 IDR) and cloth-covered display (mean sales profit = 246.666 IDR) compared to not giving cigarette display intervention (mean sales profit = 161.130 IDR).

CONCLUSION

The provision of interventions on cigarette displays treated as hidden reduced average cigarette sales in cigarette stores. Intervention in cigarette displays covered with cloth reduced average cigarette sales in cigarette stores.

The Medan City Government should regulate cigarette displays at cigarette stores around the school area to reduce cigarette consumption among students. The Education Office and schools should collaborate with cigarette sellers around the school area to stop the display of cigarettes and not sell cigarettes to students.

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