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## RESEARCH ARTICLE

# Children's Consumer Protection Against Packaged Sweetened Beverages at School

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**Abstract:** The escalating consumption of *packaged sweetened beverages* (PSBs) among Indonesian children constitutes a pressing public health concern, with national data indicating that nearly 20% of children aged 5–12 years are classified as overweight or obese, alongside a marked rise in pediatric *diabetes mellitus* over the past decade. This study investigates the implementation of legal protections for children as vulnerable consumers of PSBs within elementary school settings, utilizing *SD Muhammadiyah 13* in Medan City as a case study site. Employing a qualitative design, data were collected through *in-depth interviews* with 18 purposively selected informants — comprising school principals, teachers, canteen operators, parents, and students — supplemented by documentary analysis of applicable regulatory instruments. Findings reveal a substantial gap between existing legal norms and institutional practice: despite the normative foundations established by the Consumer Protection Law, the Health Law, and the Child Protection Law, no binding internal school regulations govern the distribution of PSBs on school premises. This implementation deficit is driven by canteen economic dependencies, insufficient nutritional literacy among students and parents, and aggressive beverage industry promotion. This study proposes an integrated child protection model encompassing technically binding regulations, structured economic incentives for canteen operators, *nutritional literacy* integration into the school curriculum, and coordinated *multi-stakeholder* supervision. Findings enrich consumer protection law discourse by framing children as inherently vulnerable legal subjects and provide an empirical basis for school-level and local government policy reform.

**Keywords:** Beverages, Consumer, Implementation, Protection, Schools

## 1. Introduction

Consumption of packaged sweetened beverages is quite high in Indonesia. One report states that Indonesia ranks third in Southeast Asia in terms of consumption of sweetened beverages, at around 20.23 liters per person per year (Latifah Alifiana Rahmawati & Atik Nurwahyuni, 2023) Data from Riskesdas and related surveys also show that the majority of children and adolescents consume sugary drinks regularly, at least once a week. The impact of this consumption pattern is clearly seen in the prevalence of overweight and obesity among children. Based on the 2022 Indonesian Nutrition Status Survey (SSGI), for the 5–12 age group, the number of children who are overweight reached 10.8%, while those who are obese reached 9.2%. These figures also indicate a double nutrition problem: on the one hand, there are still cases of malnutrition and stunting, while on the other hand, obesity is becoming a significant problem among children. Obesity and overweight have become real problems.



Children who regularly consume high-sugar drinks have a higher risk of gaining body mass and body fat. Data shows that in elementary school age (5–12 years), the combination of overweight and obese children has reached almost 20% of the population in that age group. Diabetes mellitus, especially type 1, shows a significant upward trend. The prevalence rate of childhood diabetes (type 1) increased from 0.028 per 100,000 children in 2010 to 2 per 100,000 children in January 2023. The number of sufferers is also reported to have reached 1,645 children in 13 major cities in Indonesia (Susilawati & others, 2018). In addition to obesity and diabetes, a lifestyle with high sugar intake from packaged drinks is also closely related to other metabolic disorders such as insulin resistance, lipid disorders (cholesterol and triglycerides), and an increased risk of cardiovascular disease in later life. Although specific data on all metabolic aspects in young people in Indonesia is not as complete as data on obesity/diabetes, global literature and local research (on adolescents) have identified a strong relationship between MBDK consumption and overweight status and less than ideal blood lipid profiles.

Lifestyle factors exacerbate the risk: low physical activity (sedentary lifestyle), irregular eating patterns, promotion and availability of unhealthy foods that are easily accessible to children, and poor health/nutrition literacy among students and parents (Mahmud Aditya Rifqi dkk., 2025). SD Muhammadiyah 13 was purposively selected as the research site for several substantive reasons. First, the school is representative of urban Islamic private elementary schools broadly distributed across North Sumatra, sharing institutional characteristics — including semi-autonomous canteen management, reliance on local economic logic, and absence of formal nutritional governance — commonly observed in similar educational settings throughout Indonesian cities. Second, preliminary field observations indicated that PSBs were freely available and actively purchased by students within the school premises, making it a contextually rich site for examining the implementation gap between legal norms and everyday institutional practice. Third, the school's governance structure, wherein consumption-related policy decisions are largely informal and driven by economic considerations rather than health mandates (Nourmayansa Vidya Anggraini & Lestarie Luhur, 2024), reflects conditions prevalent in comparable schools across the region, thereby enhancing the transferability of findings to similar urban educational contexts. Field observations show that most points of sale in the school environment still freely offer packaged sweetened beverages; the majority of students purchase MBDK an average of two to three times per week and awareness of the risks of excessive sugar consumption is low (World Health Organization, t.t.).

Legal protection for children as a vulnerable consumer group is not only a normative requirement but also an urgent public health necessity (Nurlaili Ramli dkk., 2019). At the international level, the WHO recommends limiting children's free sugar intake to less than 10% of daily energy intake and suggests a further reduction to around 5% (~25 grams) for additional health benefits as a measure to prevent non-communicable diseases from childhood (WHO). In Indonesia, survey reports and studies show an upward trend in overweight/obesity among children over the past two decades and warnings from professional organizations (IDAI) about an increase in diabetes cases among children that requires cross-sector attention (Oktaviani & kawan-kawan, 2024). In addition, the Indonesian Consumers Foundation (YLKI) in its latest survey emphasized that the circulation of and access to MBDK in educational environments poses a real health threat to children and adolescents in various regions. This combination of epidemiological evidence and consumer monitoring confirms that the state has an obligation to intervene through legislation and policies to prevent exposure to advertisements that are harmful to children from an early age (Putri dkk., 2024).

## 2. Literature Review

### 2.1. *The gap between regulations and practices, from norms to reality in schools*

Legally, national legislation provides a basis for protecting consumers and children's health. Law No. 8/1999 guarantees consumers' rights to safety and comfort, Health Law No. 36/2009 requires the implementation of school health programs, and UKS/UKS-M operational policies provide space for educational intervention and school food supervision. At the international level (Fillah Fithra Dieny dkk., 2024), The Convention on the Rights of the Child (UNCRC) and economic and social rights instruments affirm children's right to adequate health standards. However, findings at SD Muhammadiyah 13 reveal a gap in implementation, as existing norms have not been translated into written school policies, canteen purchasing standards, or effective monitoring mechanisms. This lack of synchronization occurs in several ways: the absence of binding technical regulations at the school level; the lack of integration of nutrition literacy material into daily learning activities; and the weakness of incentives or administrative sanctions that encourage canteens to switch to healthy alternatives (World Health Organization, 2015). The difference between legal obligations and actual practice highlights the problem of implementation, not merely a lack of norms, so that solutions must target implementation mechanisms (technical regulations, supervisory capacity, and economic instruments at the school/local government level) rather than just the formulation of new norms.

Several structural obstacles explain why normative provisions have not been effective in schools. First, parent regulations are often general in nature and do not contain technical provisions that are binding on educational units. As a result, education agencies or school principals have broad room for interpretation, so that the practices adopted depend on local knowledge and priorities. Second, economic considerations related to canteens (profit margins from the sale of MBDK) create resistance to restrictions without compensation or incentives for canteen managers. Third, aggressive marketing by industry and digital access expose children to continuous promotion beyond the control of schools. Fourth, low nutrition literacy among parents and students weakens education-based behavioral change efforts. Practically speaking, the combination of these factors explains why formal bans, if any, are difficult to enforce and why interventions that are merely appeals have not been able to change consumption patterns (Safirah H. Ng dkk., 2022). The findings at SD Muhammadiyah 13 call for an integrated approach to standardizing permitted beverages in the canteen through local government technical regulations (or school decrees in synergy with the health/education office); integration of consumption and nutrition literacy into the UKS curriculum; incentive mechanisms for canteens that provide healthy alternatives, initial capital subsidies, healthy menu guidance, and strengthened monitoring capacity, both through routine inspections and monitoring of digital advertisements targeting children. Fiscal interventions such as excise taxes or front-of-pack labeling have a macro-level effect, but to be effective they must be linked to concrete implementation measures at the educational level; for example, sugar taxes can be combined with special funds for school nutrition programs so that the economic impact on canteens can be minimized (Octaria dkk., 2020). In other words, national policies must be designed to be easily tested and adapted to the micro-school context as observed. Normatively, the protection framework is clear: Law No. 8 of 1999 on Consumer Protection guarantees the right to comfort, security, and safety; the Health Law (No. 36/2009) mandates the implementation of school health programs; and the Child Protection Law reinforces the obligations of the state and families. However, field findings show that regulatory certainty at the educational unit level has not been realized. At SD Muhammadiyah 13, there were no internal regulations governing the types of beverages that could be sold, while technical guidelines from relevant agencies (if any) had not been translated into school operational policies. In other words, there was a gap between legal norms and administrative practices in the field: regulations existed, but implementation and monitoring mechanisms were weak (Sing, 2023). Observations confirm the high availability of MBDK, with around eight out of ten points of sale in school environments still offering

sweetened products without warning labels or information on sugar consumption limits. Students' habits show a minimum consumption of two to three times per week. This pattern is not merely an individual choice but is shaped by a combination of accessibility, price, and marketing strategies: the products are easily available in the cafeteria, affordable for children, and attract attention with their packaging and promotion. As a result, protection efforts that focus only on legal regulations without addressing availability and economic appeal are inadequate.

The main problem is the absence of binding technical regulations at the district/city or educational unit level that contain standards for types of beverages that are prohibited or restricted in school environments. Synergy between regulations is also low: although the law and ministerial regulations provide a basis, there are no measurable implementation mechanisms and sanctions for canteen managers who violate them. In addition, there are no routine compliance audit guidelines from the Education Office or Health Office, making it difficult to systematically identify and follow up on violations. Economic factors are a significant obstacle. Canteen managers prioritize revenue, and MBDK products are popular with attractive margins, so health concerns tend to be overshadowed by microeconomic logic (Pomeranz & Mozaffarian, 2022). At the family level, nutrition literacy is relatively low; many parents do not understand the long-term risks of excessive sugar consumption and therefore do not provide strong guidance to their children. The external marketing environment also exacerbates the situation: advertising and promotions targeting children increase demand and undermine efforts to restrict consumption in schools. Finally, the limited availability of affordable healthy alternatives makes it difficult to change consumption behavior through education alone. The absence of a joint supervisory team between schools, relevant agencies, and food regulatory agencies (BPOM/Kemenkes) results in sporadic and reactive supervision. When oversight is unstructured, preventive measures such as regular guidance, canteen inspections, or the application of administrative sanctions are not implemented consistently. In addition, SD Muhammadiyah 13 has limited human resources and budgetary capacity to implement menu substitution programs or intensive literacy campaigns without support from the local government or partners.

Macro policy recommendations such as imposing excise taxes, front-of-pack labeling, or restricting international advertising are often put forward, but the relevance of such policies to the school context must be directly linked to field evidence (Rostami & others, 2024). For example, recommendations for intervention at the school level need to respond to the fact that canteen managers are sensitive to economic incentives: effective policies at the educational unit level can combine a ban on the sale of MBDK with incentive schemes (subsidies for healthy menus or product substitution) and canteen entrepreneurship training so that income does not decline. Similarly, literacy programs should focus on parents and children using age-appropriate methods, as low parental understanding contributes to permissiveness of consumption. Interventions need to consider children's right to health and the principle of the best interests of the child. Effective protection is not just about prohibition, but also about facilitating access to healthy alternatives and ensuring the participation of students and parents in the formulation of school policies. Every regulatory step must comply with ethical procedures: communicate rules clearly, provide easily accessible complaint mechanisms for parents, and maintain anonymity when necessary to protect participants in the evaluation process.

## *2.2. Analysis of the implementation of legal protection for the sale of MBDK in schools*

The implementation of legal protection for children as consumers in schools shows a gap between written norms and field practices. Normatively, consumer rights to comfort, security, and safety are listed in the Consumer Protection Law, while the responsibility for school health management is regulated in health provisions and UKS guidelines issued by the relevant ministries. However, field evidence from a case study at SD Muhammadiyah 13 Kota Medan shows that formal regulations have not been translated into effective internal policies:

canteens still sell sweetened products without warning labels, and schools have not implemented strict purchasing/serving standards. Macro-wise, the trend of overweight and obese children in Indonesia has increased in recent decades, reinforcing the urgency of controlling sugar consumption among school-age groups. (Vonk dkk., 2023). National survey data show an increase in the prevalence of overnutrition among school-aged children that should be of concern to policymakers. The correlation between field findings and legal provisions confirms that there is room for improvement in implementation: general regulations are in place, but the absence of technical regulations governing the standards of products that may be sold in school environments and weak local monitoring mechanisms contribute to low compliance (Putri, 2013). The UKS guidelines provide an operational framework, but without administrative sanctions and adequate fiscal/management support, school compliance will depend on awareness and local economic incentives. Legal barriers are structural and relate to a series of regulations that are not yet operationally integrated. The principal law provides a basis for rights but lacks implementative regulations governing product nutrition criteria, canteen supplier qualifications, and sanction mechanisms for violations in the educational environment. The lack of synchronization in nomenclature and implementing regulations between the ministries of health and education and food regulatory agencies reduces the effectiveness of enforcement at the school level.

Economically, canteen income often depends on sweetened products due to their low price and high demand; this condition creates a conflict of interest between health objectives and the sustainability of the canteen business. Low levels of nutritional literacy among parents and children weaken community support for MBDK restrictions, while product marketing practices, including promotions that attract children's attention, reinforce unhealthy consumption preferences. The intensity of digital advertising exposure adds to the complexity of monitoring, as marketing space has now largely shifted to online platforms that are difficult to monitor without specific regulations (Tania dkk., 2024). Global evidence suggests that fiscal interventions and advertising regulations can reduce sugar consumption from beverages, so these marketing barriers are not insurmountable but require integrated policies. Methodological issues in field studies also weaken the strength of evidence for broader policy: single case studies are vulnerable to limitations in transferability, and the use of percentages or generalized claims without a representative sample risks misleading policymakers (Anggriawan, 2021). Therefore, policy recommendations should take these limitations into account and encourage broader comparative studies and ongoing monitoring.

Recommendations for an applicable and contextual legal protection model The ideal model must combine regulatory, educational, and incentive-enforcement mechanisms that support each other. First, at the regulatory level, technical regulations are needed to set minimum standards for products that can be sold in schools, such as sugar content limits per 100 ml, a complete list of prohibited products, and simple labeling requirements that are easy for children and parents to understand. These instruments should be regulated through joint ministerial regulations (health–education–trade/BPOM) to ensure that the nomenclature and implementation provisions are synchronized. This step transforms general norms into auditable technical regulations. Second, in the educational sphere, the integration of nutrition literacy into the UKS curriculum must be enriched with practical activities: parent counseling, canteen manager workshops, and community-based healthy behavior campaign programs. Educational interventions need to be evidence-based and evaluated periodically so that their impact on children's knowledge and consumption choices can be measured (Yestandha & Samsul, 2022). Third, the economic aspect is addressed through incentive mechanisms for subsidized canteen managers or microcapital assistance for the provision of healthy menus, fiscal incentives/grants from local governments for canteens that meet nutritional criteria, and an award mechanism (the “Healthy Canteen” label) that enhances the school's reputation. On the other hand, national fiscal policies such as sugar-based excise taxes or price controls can shift market preferences. International experience shows that taxes on sweetened beverages encourage product reformulation and reduce consumption if they are well designed and implemented. However, fiscal policy adaptation must consider aspects of social justice

and product substitution so as not to burden low-income households. Fourth, supervision and enforcement need to be empowered with a multi-stakeholder monitoring system involving collaboration between the Education Office, Health Office, and BPOM at the local level, citizen reporting/whistleblowing mechanisms, and periodic audits of canteens and suppliers. The use of simple digital tools for reporting and monitoring dashboards can increase the transparency and responsiveness of supervision. Fifth, ethical guarantees and children's rights must be the basis of every intervention: consent procedures in survey/research campaigns, data anonymization, and protection against advertising exploitation targeting children must be enforced (Trijayanti & Gani, 2023). In addition, policy recommendations must remain sensitive to the local context, for example, ensuring the availability of clean drinking water and affordable healthy alternatives as prerequisites for the success of MBDK restrictions.

This study has significant value in two areas. At the theoretical level, the results of the study can enrich the discourse of legal science, particularly in the fields of consumer protection and health law. Until now, most discussions on consumer protection have focused on the relationship between producers and adult consumers. Children, as a group that is physiologically and psychologically vulnerable, have not received much attention as legal subjects with inherent consumer rights. Through case studies in elementary schools, this study can present a new perspective on the need to strengthen child protection in the context of consumption of food and beverage products that pose a risk to health (Sukma, 2023). From a practical standpoint, this study is expected to provide direct input to various stakeholders. For schools, the findings can be used to formulate internal policies related to healthy canteens and nutrition literacy programs for students. Local governments can use the results of the study as a basis for formulating technical regulations on food and beverage standards in schools, in line with the School Health Program (UKS/M). Meanwhile, relevant ministries such as the Ministry of Health, the Ministry of Education, and the Food and Drug Supervisory Agency (BPOM) will obtain additional empirical evidence to strengthen national policies on controlling the consumption of sweetened beverages, which is currently in the public spotlight with the discourse on the implementation of sugar excise.

The conceptual framework of this study is based on domestic legal regulations that govern consumer protection and children's rights. Law No. 8 of 1999 affirms the right of every consumer to comfort, security, and safety in consuming goods and services. The position of children as vulnerable consumers is reinforced by the Child Protection Law, which places the state, family, and community as parties responsible for ensuring that children's basic needs are met, including access to healthy food. In the context of school health, Law No. 36 of 2009 mandates that the school environment must support optimal child growth and development. This is further emphasized in ministerial regulations governing School/Madrasah Health Services (UKS/M), in which the provision of healthy food and beverages is one of the main components. The BPOM guidelines together with the Ministry of Health regarding School Children's Snacks (PJAS) also provide practical standards that can be used as a reference for canteen operators. Within the framework of international law, this research is based on universally recognized human rights norms (Muchtar dkk., 2005). The International Covenant on Economic, Social, and Cultural Rights (ICESCR) Article 11 affirms the right to adequate food, which is clarified through General Comment No. 12 of the Committee on Economic, Social, and Cultural Rights (CESCR) on the right to adequate food (Agustina, 2015). Children's right to the highest standard of health is also affirmed in Article 24 of the Convention on the Rights of the Child (CRC), which Indonesia ratified through Presidential Decree No. 36 of 1990. Thus, there is a strong normative basis for demanding legal protection for children from food products that have the potential to harm their health.

Previous studies have shown high levels of sweetened beverage consumption among school children. Data from the 2018 Basic Health Research (Riskesdas) shows that the prevalence of sweetened beverage consumption more than once a day reached 24.5% among children

aged 10–14 years and 26.2% among adolescents aged 15–19 years (Badan Penelitian dan Pengembangan Kesehatan, Kementerian Kesehatan Republik Indonesia, 2019). This trend is linked to an increase in childhood obesity cases, which rose from 8.8% in 2013 to 10.8% in 2018. Meanwhile, various countries have taken decisive steps to control sweetened beverages. The UK has implemented a Soft Drinks Industry Levy since 2018, which has been proven to reduce sugar levels in packaged drinks by 28.8% in 2019. France had already imposed a sugar tax since 2012, while Singapore in 2020 mandated colored nutrition labels on high-sugar packaged beverages. This comparison shows a global pattern of reducing excessive sugar consumption through fiscal regulatory instruments and consumer information policies (Berardi dkk., 2016).

### 3. Research Method and Materials

This study uses a qualitative case study approach to explore in depth the practice of protecting children as consumers of packaged sweetened beverages (MBDK) in primary education settings. This approach was chosen based on the consideration that the issue of protecting children as consumers is not only related to positive legal norms, but also to the social, cultural, and economic dynamics that occur in school environments (Scarborough dkk., 2020). Thus, the research does not merely interpret the text of the legislation, but also analyzes how the rules are applied and perceived by the actors directly involved. The research location was centered at SD Muhammadiyah 13 Medan City, which was chosen because it is representative of the daily practices of children in religious private schools, with characteristics that are quite common in urban areas. The focus of the analysis is on MBDK consumption practices at this school, particularly in relation to internal policies, monitoring mechanisms, and stakeholders' perceptions of child consumer protection.

Data was obtained through two main techniques. First, in-depth interviews with key informants who had direct involvement with the distribution and consumption of MBDK, including school principals, teachers, canteen managers, parents, and students in grades four to six. Second, a document study covering internal school rules, relevant government regulations, and academic literature. This combination of techniques allowed researchers to compare empirical reality with the applicable normative framework. A total of 18 informants participated in this study, selected through *purposive sampling* based on their direct and substantive involvement in the distribution, regulation, and consumption of PSBs within the school environment. The composition of informants was designed to capture multiple institutional perspectives relevant to the research questions. Table 1 presents the demographic and categorical profile of the informants.

Table 1. Informant Profile

Code	Category	Number	Selection Criteria
KS	School Principal	1	Decision-maker for school policy
GK	Teacher	3	Direct interaction with students' daily consumption
PK	Canteen Manager	2	Directly manages PSBs supply and sales
OK	Parent	6	Guardian responsible for children's consumption habits
G4-G6_Siswa_L/P	Student (Grade 4-6)	6	End consumers aged 9-12 years, both male and female
Total		18	

Students were selected based on the criteria of being between nine and twelve years old, while teachers and parents were selected based on their intense interaction with children's daily consumption at school. Ethical aspects were a major concern, given that most of the participants were children (Rana dkk., 2023).

This study obtained ethical approval from the university research committee through an official letter with a specific registration number. Before the interviews were conducted, the researchers requested written consent from the parents and verbal assent from the children as a form of respect for the children's right to choose to participate. The identities of participants were protected through an anonymization system, for example, using the code KS for the principal, GK for teachers, OK for parents, PK for canteen managers, and special

codes for students such as G5\_Siswa\_L (fifth-grade male students). In addition, the researchers sought to minimize psychological risks to children by ensuring a safe, friendly interview atmosphere and adapting to the children's language. The research instrument was a semi-structured interview guide that covered core themes regarding understanding the health risks of consuming MBDK, school policies related to food and beverages, canteen trading practices, children's preferences in choosing beverages, and parents' perceptions of consumer protection. All interviews were recorded with the informants' consent and then transcribed verbatim. Data analysis was conducted using thematic analysis techniques assisted by NVivo software (Allsop dkk., 2022). Proses dimulai dengan pengodean terbuka untuk mengidentifikasi kata kunci dari transkrip, dilanjutkan dengan pengodean aksial guna menghubungkan kategori, dan diakhiri dengan pengodean selektif untuk membentuk tema utama yang relevan dengan rumusan masalah penelitian. Validitas data diperkuat melalui triangulasi antar sumber, diskusi sejawat dengan peneliti lain, member checking kepada sebagian informan untuk memastikan akurasi interpretasi, serta pencatatan jejak audit agar proses analisis dapat ditelusuri ulang secara transparan.

Based on interviews with students, teachers, cafeteria managers, and parents, several key issues were identified that illustrate the state of child consumer protection regarding packaged sweetened beverages (MBDK) at SD Muhammadiyah 13 in Medan. First, there is a regulatory gap at the school level. Although there is normative protection in the Consumer Protection Law and the Child Protection Law, at the school level there are no written rules that specifically restrict the sale of MBDK. Teachers only give advice, while in practice the canteen is still free to provide packaged beverage products. Second, economic motivation is a dominant factor for cafeteria managers. Sales of MBDK are considered to provide significant profit margins, accounting for more than a third of the cafeteria's daily income. This creates a dilemma between the economic needs of the cafeteria and the health interests of students. Third, the influence of promotions and advertising is very strong on student consumption behavior. Children admit to choosing certain brands because they often see advertisements on television or social media. In addition, the area surrounding the school is filled with promotional banners for bottled drinks, which further strengthens their appeal to children. Fourth, it was found that the nutritional literacy of students and parents is still low. Some parents believe that bottled drinks sold in the cafeteria are relatively safe as long as they are purchased within the school environment. Meanwhile, students tend to view sweetened drinks as modern products that are more appealing than water. Fifth, the lack of healthy beverage alternatives in the canteen is a factor that reinforces MBDK consumption. Canteen managers admit that they are reluctant to provide fresh juice or milk because they are considered impractical and spoil quickly. As a result, children almost always buy sweetened beverages every day as their first choice (Nafartilova & Wijaya, 2024). These findings can be summarized in the following table:

**Table 2.** Thematic Findings on Legal Protection of Children against MBDK Consumption in Schools

Main Theme	Sub-Theme	Representative Quote (Informant/Observation)
Regulatory Gaps	Absence of written rules in schools	"We can only encourage children to drink more water, but the canteen still sells bottled drinks because that's what they want." (Teacher)
	Legal norms not yet translated to the school level	Observations show that there are no internal regulations limiting the sale of MBDK at SD Muhammadiyah 13.
Economic Motivation of Canteens	Dependence on MBDK sales	"If we don't sell sweet bottled drinks, our income could drop by half." (Canteen manager)
	Profit margins on sweetened products	The sale of MBDK contributes more than a third of the canteen's daily income.
Influence of Promotion & Advertising	Exposure to television and social media advertising	"I like to buy that brand because I often see my idol in the advertisements." (Student)
	Marketing environment around schools	Many MBDK banners/advertisements are posted around the school area.

<b>Low Nutrition Literacy</b>	Parents' views	"As long as children don't buy snacks outside the school fence, I think bottled drinks in the canteen are still safe." (Parent)
	Students' perceptions	Bottled drinks are considered more modern and cool than plain water.
<b>Lack of Healthy Alternatives</b>	Lack of healthy beverage options in the cafeteria	The canteen does not provide fresh juice, milk, or infused water because they are considered impractical and prone to spoilage.
	Consequences on consumption behavior	Children almost always buy sweetened drinks to quench their thirst.

Consequences on consumption behavior Children almost always buy sweetened drinks to quench their thirst.

The results of interviews and observations reveal several key patterns that describe the situation of child consumer protection in schools. The absence of clear school regulations is evident from the lack of written policies regarding the standards for food and beverages that may be sold in the cafeteria. The principal acknowledged that to date, the school has not issued any regulations prohibiting the sale of MBDK because there have been no instructions from the education office or the foundation. One teacher stated, "We can only encourage children to drink more water, but the canteen continues to provide packaged drinks because that is what is in demand. The canteen's economic considerations are a dominant factor in the selection of products sold (Rani dkk., 2024).

The cafeteria manager said that bottled drinks make up more than a third of their daily income. The low price, easy distribution, and high demand from students make it hard for them to resist selling these products. "If we didn't sell sweet bottled drinks, our income would drop by half," said one of the managers. Promotions and advertising also have a big impact. Students mentioned frequently seeing advertisements for sweet drinks on television, social media, and banners around the school. Some students even mentioned specific brands because they were accustomed to seeing advertisements featuring their favorite celebrities. This situation reinforced their desire to purchase the same products at the school cafeteria. The literacy of parents and students low, as seen from the lack of understanding about the effects of excessive sugar consumption (Diyanti & Ruhana, 2025).

Parents tend to think that sugary drinks are just part of daily consumption, not a health threat. One mother stated, "As long as my child doesn't buy snacks outside the school gates, I think the packaged drinks in the canteen are still safe." A similar view was expressed by students who consider bottled drinks to be more modern than plain water. The lack of healthy drink alternatives exacerbates the situation. School canteens do not provide fresh juice, milk, or infused water because they are considered impractical and prone to spoilage (Feri Budi Setyawan & Iyan Sofyan, 2023). With limited choices, children almost always buy sweetened drinks to quench their thirst. This is contrary to the recommendations of BPOM and the Ministry of Health, which encourage schools to provide healthier snacks for school children (PJAS), including bottled mineral water as the main choice.

## 4. Results and Discussion

### 4.1. Result

#### 4.1.1. Observation Results

##### *Implementation and Obstacles to Child Consumer Protection against MBDK*

Field evidence documenting the absence of written institutional regulations and the primacy of economic motivation among canteen operators exposes systemic deficiencies in the operationalization of the foundational principles enshrined in the Consumer Protection Law. To more rigorously analyze these multi-layered barriers, this study maps the identified obstacles onto a socio-ecological framework, which conceptualizes the problem across four interdependent levels. At the macro level, national legal instruments — including Law No. 8/1999 on Consumer Protection, Law No. 36/2009 on Health, and Law No. 23/2002 on

Child Protection — provide a normative foundation; however, the absence of technically specific implementing regulations renders these instruments largely aspirational rather than enforceable. At the meso level, local governance actors, including the district Education Office and Health Office, lack formal coordination protocols and routine inspection mandates for school canteen compliance. At the micro (school) level, institutional decision-making is dominated by economic logic, with PSBs generating substantial canteen revenue that school administrators are reluctant to forgo without compensatory support. At the individual level, children and parents demonstrate low nutritional literacy, while the pervasive influence of digital and point-of-sale marketing by the beverage industry normalizes PSBs consumption and actively undermines school-level health messaging. This multi-level mapping reveals that industry promotional power systematically overrides local school governance capacity, and that effective interventions must therefore target all four levels simultaneously rather than relying on any single regulatory or educational measure (Rima, 2022). Law No. 36 of 2009 emphasizes the obligation of school health programs to improve students' ability to live healthy lives and create a school environment conducive to optimal growth and development. The fact that the majority of canteens still freely provide MBDK and there are almost no structured nutrition education programs shows that the implementation of this obligation has not been effective (Kadaryati & kolega, 2023) With epidemiological data from Riskesdas recording the proportion of school-aged children who are overweight/obese in the 5–12 age range (combined figures often cited as overweight ~10.8% and obese ~9.2%), local findings in Medan are in line with national trends that call for more decisive school environmental health interventions. The absence of technical operational standards for the sale of food/beverages in schools weakens efforts to prevent non-communicable diseases in children in accordance with the framework of the Health Law.

The Law on Child Protection mandates the state, families, and society to guarantee the fulfillment of children's rights, including the right to health and protection from harmful commercial practices (Khaerunisa dkk., 2025). The amendments made through Law No. 35/2014 reinforce sanctions and stronger legal protection against violations of children's rights. From this perspective, the marketing practices and availability of MBDK products in school environments can be examined as a failure of the protective structure that should prevent commercial exposure that is harmful to children. The finding that parents and teachers have not implemented active supervision underscores the need to strengthen collective caregiving functions and explicit sectoral regulations that protect children from risky marketing. Legally, weaknesses in implementation at the educational unit level open space for policy recommendations that integrate child protection into UKS/M operational norms and local regulations. School Health Efforts (UKS/M) aim to create a healthy learning environment through activities that include the provision of nutritious food/drinks, nutrition education, and canteen supervision (Rahayu & Anggraini, 2024). Field findings indicate low nutritional literacy among students and parents, as well as a lack of clear sales standards, showing that the implementation of UKS/M is not yet optimal. On the other hand, the PJAS guidelines published by the national food authority provide technical references on the criteria for safe and nutritious school snacks; however, the existence of guidelines without enforcement mechanisms at the school and local government levels makes them less effective (Kadaryati dkk., 2024). Therefore, recommendations that focus on integrating PJAS guidelines into internal school rules and incentive/enforcement mechanisms at the district/city level will reduce the gap between technical norms and practices in the field.

International standards place health and adequate food as an integral part of children's rights. Article 24 of the Convention on the Rights of the Child (UNCRC) demands that states ensure the availability of health services and an environment that supports children's welfare; This interpretation is relevant when considering that children's access and exposure to risky products at school may reduce their chances of enjoying the highest standards of health. Meanwhile, General Comment No.12 of the ESCR Committee (ICESCR) emphasized the state's obligation to ensure the right to adequate food through economic policies and regulations that protect vulnerable groups. Linking empirical findings in Medan to these

principles strengthens the argument that interventions are not only educational or internal school policies, but also require fiscal policies, advertising regulations, and marketing oversight at the national level to fulfill broader human rights obligations. From a practical perspective, the observation results suggest that sectoral and partial solutions will be less effective; for example, educational posters alone do not address the economic incentives of canteens or product promotion by industry. Therefore, legal reform efforts need to combine three layers: strengthening internal school regulations (standards for types and labels of products that may be sold), monitoring and sanction mechanisms that can be implemented by local Education/Health Services, as well as fiscal policies and marketing regulations at the national level to reduce the commercial appeal of MBDK to children. (Sumantri Riyanto & Sinaga, 2021). The strength of this argument is supported by data on the prevalence of child overnutrition/obesity which shows that the problem is not a systemic incidental and requires cross-sectoral policies.

#### 4.2. Discussion

##### *International Comparison and Ideal Model Formulation*

The absence of technical regulations governing the standards for beverages permitted in school environments is a major obstacle that weakens the authority of school administrators to impose bans or restrictions on the sale of MBDK. Normatively, the foundation exists in the Consumer Protection Law (Law No. 8/1999), the Health Law, and UKS/M provisions, but without detailed implementing regulations. For example, standards for maximum sugar content in products that may be sold in canteens, mandatory warning labels on packaging marketed to children, or school canteen licensing mechanisms that apply the principle of children's consumer rights are very limited (Fakhriyah & Suwardi, 2022). The ambiguity of these technical norms is reflected in the practice in the field, where school interventions tend to take the form of non-binding appeals or sporadic educational posters, rather than standard rules that can be enforced administratively at the educational unit level. Weak supervision exacerbates the problem. Fragmented supervision is spread across the Education Office, Health Office, and BPOM without clear coordination protocols, resulting in implementation gaps: schools feel they do not have the mandate to reject suppliers/traders who continue to sell MBDK, while supervisory agencies do not routinely monitor canteen compliance with nutritional standards or labeling. To be effective, legal norms need to be complemented by operational enforcement instruments clear administrative sanctions for violations, integrated periodic inspection mechanisms, and rapid complaint channels accessible to parents and students. Brief legal policy recommendation: draft a joint Regional Regulation or Ministerial Regulation that sets technical standards for the sale of food and beverages in basic education units, complete with a scheme of administrative sanctions and integrated supervisory duties and functions.

The economic considerations of cafeteria managers are practical factors that determine the decision to sell MBDK. The relatively stable income from popular products risks making managers prioritize margins over health aspects. Without economic incentives or compensation for cafeterias that replace risky products with healthy alternatives, changes in supply behavior remain difficult to achieve. Fiscal policy-based interventions at the school level. Subsidies for healthy ingredients or incentive schemes for compliant cafeterias have proven to be more feasible than mere appeals. Low nutrition literacy among parents and students reinforces the demand for MBDK. When families and children do not fully understand the long-term consequences of excessive sugar consumption, children's market preferences will continue to drive demand for sweetened products (Sari, 2021). Therefore, structured nutrition literacy programs incorporated into school curricula and parent activities are interventions that must run parallel to supply regulations. The intensity of industry promotion, both at points of sale and on digital platforms frequently accessed by children, increases exposure to and normalization of MBDK consumption. Systematic evidence shows that restricting the marketing of unhealthy foods/beverages to children reduces exposure,

choice, and ultimately purchase by families (Fitriani, 2020). Without specific advertising regulations or digital marketing monitoring mechanisms, the effects of school-level policies will be reduced by widespread supply and promotion (Kesehatan, 2020). The combined impact of these non-legal barriers calls for a comprehensive policy package combining local fiscal policies, ongoing literacy programs, and marketing regulations that cover digital platforms.

The UK's experience with the Soft Drinks Industry Levy (SDIL) highlights two important lessons first, different rates based on sugar content encourage product reformulation by the industry; second, taxes designed to reduce sugar content can lower sugar intake from beverages among children and adults. Post-implementation evaluations report significant reductions in sugar concentration and consumption of sweetened beverages in several age groups (Rojas & Rahman, 2024). In France, the imposition of taxes on sugary drinks also affects prices and purchases, with several studies showing changes in purchasing that are relevant to public health. Easy-to-read nutrition labeling, such as the "front-of-pack" model that classifies products according to simple criteria, has been shown to help consumers make healthier choices and provide market signals that encourage reformulation. Singapore stands out for its combination of strict regulatory policies on advertising of high-sugar products aimed at children and the implementation of a nutrition labeling system that helps consumers assess product quality (Cobiac & dkk, 2024). This policy, if selectively adapted, is relevant to the school context in Indonesia because it targets both sides of the supply and demand issues simultaneously. Its relevance to Indonesia must be assessed from two perspectives. First, regional fiscal and administrative capacity determines whether similar tax or subsidy schemes can be effectively implemented at the local level. Second, market structure (dominant imported vs. local products, school canteen supply chains) influences how taxes or labels affect retail prices and consumer choices in schools (Jakarta, 2024). Therefore, combining policies such as national excise mechanisms on certain products, local regulations governing sales in educational environments, and easy-to-understand national labeling has the potential to yield the best results. The ideal model combines technical regulations, education, economic incentives, and integrated supervision so that interventions reinforce each other. Technical regulations must set criteria for products that can be sold in canteens. Limits on sugar content per 100 ml, exceptions for certain products such as pure milk, canteen licensing procedures, and mandatory nutritional labeling on products marketed to children (Ilmugiziku, 2024). These provisions are most effective when adopted through Regional Regulations or Joint Circular Letters that are binding in the school's administrative area. Nutrition literacy education needs to be integrated into the curriculum (active learning for grades 4–6) and followed by parent empowerment programs (workshops, communication modules). This program aims to shift demand preferences while supporting supply policies.

Economic incentives for cafeterias are a key component in ensuring that changes in supply are sustainable. Practical schemes include initial subsidies for healthy substitute ingredients, training for cafeteria managers to optimize margins from healthy menus, and recognition/fiscal incentives for schools that meet cafeteria health criteria (Sembiah & Burman, 2024). Oversight must be designed across agencies. The Education Agency leads on school policy aspects, the Health Agency ensures nutritional adequacy and food safety, while BPOM monitors label compliance and product standards. Practical oversight mechanisms include periodic inspections, a public reporting system (parent/student complaint portal), and supplier compliance audits. To address the challenge of monitoring digital marketing, a regional online monitoring protocol coordinated with national advertising regulators is needed. Initial implementation is recommended on a pilot basis in several schools in each district/city to evaluate operational impacts before scaling up nationally (Vilela dkk., 2023). The evaluation should measure multiple indicators: compliance with supply in the cafeteria and changes in students' knowledge and consumption behavior. A combination of fiscal regulatory excise policies, bans on sales in schools, and cafeteria incentives is likely to yield the strongest results because it targets the root causes on both the supply and demand sides.

## 5. Conclusion

This study confirms that child consumer protection against unhealthy foods in the environment of SD Muhammadiyah 13 Medan City has not been implemented effectively, despite the existence of a comprehensive national legal framework. The main contributing factors include the absence of internal school policies, low literacy among students and parents, and the dominance of economic considerations by canteen managers. Practical implications that can be applied at the school level include the formulation of internal rules, nutrition literacy education, the provision of healthy alternatives in the canteen, and strengthening the role of teachers as role models. Meanwhile, policy implications at the district/city and national levels require clearer technical regulations, integrated supervision, economic incentives for canteen providers, and the strengthening of legal instruments that prohibit the sale of MBDK in schools.

Understanding of the health risks posed. Although there is a strong legal basis in Law Number 8 of 1999 concerning Consumer Protection, Law Number 36 of 2009 concerning Health, and Law Number 23 of 2002 concerning Child Protection, as well as the Convention on the Rights of the Child (UNCRC) Article 24, its implementation in the field is still far from optimal. The ineffectiveness of this implementation is caused by various juridical obstacles such as the absence of specific and comprehensive technical regulations, insynchronization between regulations, and non-juridical obstacles in the form of low stakeholder understanding of the health risks of MBDK, the dominance of economic considerations in canteen management, aggressive product marketing intensity, and limited resources to provide healthy beverage alternatives. To increase the effectiveness of child consumer protection, it is necessary to reformulate comprehensive policies through the establishment of specific technical regulations, the implementation of a progressive excise system for MBDK, the development of an integrated nutritional health curriculum, the strengthening of monitoring and enforcement through a special supervisory team, a multi-stakeholder consumer literacy program, as well as the development of supporting infrastructure in the form of affordable healthy beverage alternatives with the support of political commitment and effective coordination between related agencies.

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