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Violation of Business Ethics in the Professionality of Marketing Children's Syrup Medicine (Literatur Review)

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ABSTRACT

The mysterious cases of acute kidney failure in children currently spreading in Indonesia are suspected to be caused by a mixture of syrup compounds, namely ethylene glycol and diethylene glycol. Ethylene glycol and diethylene glycol are chemicals that should not be present in drug mixtures. If consumed orally, they can cause harmful effects to the body. Adding additional solvents to syrups for children constitutes dishonest behavior, deceiving consumers, because they are not listed on the drug's composition label. This dishonesty can cause illness and even death in children. Violations of business ethics such as these constitute actions and/or actions that harm consumers. The Indonesian Food and Drug Authority (BPOM) has taken legal action against the pharmaceutical company that committed this case for producing drugs with very high levels of ethylene glycol, exceeding the threshold. The company faces a 10-year prison sentence and a Rp 1 billion fine. However, the situation should not stop there. The Food and Drug Authority (BPOM) must conduct stricter oversight of all drug and food manufacturers to ensure the safety of all consumers. In this article, the author will examine the issue of "Violations of business ethics in the professional marketing of children's syrup medication" using a literature review method based on published articles from journals and other scientific publications.

Keywords: drug marketing, ethylene glycol, pediatric kidney failure, violation of business ethics

BACKGROUND

The phenomenon of kidney failure in children suspected of consuming medications containing ethylene glycol is a widespread issue among the public, the Ministry of Health, and the Food and Drug Monitoring Agency (BPOM). Ethylene glycol (EG) is a sweet organic solvent compound that is often misused as a drug solvent. When it enters the body, this compound undergoes enzyme oxidation to glycol aldehyde. This then becomes glycolic acid and forms oxalic acid, which can trigger kidney stones (Girsang et al., 2019).

Acute kidney failure cases affecting children aged 6 months to 18 years have increased. As of October 18, 2022, there were 189 cases, predominantly in children aged 1-5 years. Initial symptoms suggestive of acute kidney failure include diarrhea, nausea, vomiting, fever lasting 3-5 days, coughing, runny nose, drowsiness, and low urine output or even the inability to urinate. The government has announced that hundreds of cases of kidney failure in children in Indonesia are due to the consumption of syrup containing ethylene glycol (EG) and diethylene glycol (DEG) (Hun Song et al., 2017; Masalskienė et al., 2021).

Following a surge in cases of kidney failure in children due to syrup contamination by ingredients containing ethylene glycol (EG) and diethylene glycol (DEG), the government has banned the use of these syrups and withdrawn them from the market. This decision presents a significant dilemma for mothers in Indonesia. Given that children cannot yet swallow tablets or capsules, the government advises recommends medications that are safe for children and do not cause acute kidney failure (Putri et al., 2023).

The circulation of syrup containing ethylene glycol (EG) and diethylene glycol (DEG) is inseparable from a violation of business ethics in the professional marketing of syrup medications for children. Before being marketed, a product or service should pass BPOM inspection. However, in reality, these drugs can pass BPOM inspection and circulate freely in the community (Saputra, 2015).

Business activities carried out by business actors in producing a product, whether in the form of goods and/or services, must provide a sense of security, comfort, and safety, and not pose a health hazard to consumers. Products produced and traded by business actors must meet quality standards, and information must be correct, honest, and clear regarding products produced and traded after undergoing testing and inspection by BPOM. However, in reality, many products in circulation do not meet quality standards and endanger consumer health (Tarigan et al., 2022).

The problem is how the business actor responsible for producing the syrup medication that caused acute kidney failure in children is held accountable. The violations committed by this business actor in producing the children's syrup included using hazardous drug ingredients and exceeding the recommended dosage. The business actor's civil liability is to provide compensation and compensation to the victim's family. Criminal liability is based on the fraudulent use of the hazardous drug ingredients ethylene glycol (EG) and diethylene glycol (DEG), which are not permitted for use in drug ingredients, and failing to provide accurate, clear, and honest information about the composition listed on the drug label (Yusuf et al., 2020).

The relationship between businesses and consumers is regulated by Law Number 8 of 1999 concerning Consumer Protection, hereinafter referred to as the Consumer Protection Law. The Consumer Protection Law defines the terms "business actor" and "consumer" of goods and services. In business activities, the relationship between businesses and consumers is a legal relationship bound by an agreement. The most important legal provisions concerning the relationship between businesses and consumers concern the valid conditions of the agreement and the principles of the agreement.

A sales and purchase agreement binds businesses and consumers and is a form of reciprocal agreement containing the rights and obligations of both businesses and consumers. If businesses and consumers fulfill what has been agreed upon in the sales and purchase agreement, this is known in contract law as "performance," which does not cause problems. Conversely, if a sales and purchase agreement is violated, it constitutes a breach of contract. This breach results in losses to either party, either the business or the consumer, depending on the party that fails to fulfill its obligations (Saputra, 2015; Tarigan et al., 2022).

Based on the above background, the author will explain and examine the issue of "Violations of business ethics in the professional marketing of children's syrup medication" in a literature review based on published articles from journals and other scientific articles.

The purpose of this literature review is to explain violations of business ethics in the professional marketing of children's syrup medication.

THEORETICAL BASIS

A business actor is any individual or business entity, whether a legal entity or not, established, domiciled, or operating within the territory of Indonesia, either individually or jointly, through an agreement, to conduct business activities in various economic sectors (Putri

et al., 2023). A consumer is any person who uses goods and/or services available in the community, whether for their own benefit, that of their family, other people, or other living beings, and not for trading (Saputra, 2015; Tarigan et al., 2022).

Pharmaceutical companies, or drug companies, are commercial enterprises focused on the research, development, and distribution of pharmaceuticals, particularly in the healthcare sector.

Pharmaceutical companies can operate effectively if sales volume continues and increases. Pharmaceutical sales must also fulfill marketing and sales rights. Furthermore, with increasingly fierce competition among pharmaceutical companies, business actors must also improve their guidance to ensure optimal service (Putri et al., 2023). Pharmaceutical companies are an industry that utilizes significant intellectual capital. The Indonesian pharmaceutical industry market has significant potential, given Indonesia's large population of over 220 million people. As part of their business, pharmaceutical companies produce pharmaceutical products (Putri et al., 2023).

Medicine is also a basic human need that cannot be replaced by healthcare services. Pharmaceutical Wholesalers (PBF) are always involved in the pharmaceutical distribution chain. The Decree of the Minister of Health states that Pharmaceutical Wholesalers (PBF) are legal entities authorized by law to acquire, store, and distribute medicines in large quantities. (Decree of the Minister of Health of the Republic of Indonesia, Chapter 1, Article 1, 2011).

In accordance with Minister of Health Regulation No. 73 of 2016 concerning Pharmaceutical Service Standards in Pharmacies, the Head of the Food and Drug Monitoring Agency (BPOM) is the head of the non-ministerial institution tasked with carrying out government duties in the field of drug and food supervision and control. Referring to Decree of the Head of the Food and Drug Monitoring Agency No. HK.00.05.3.02706 of 2002 concerning Drug Development, the National Pharmaceutical Industry Investment (PMDN), which is part of the Indonesian Pharmaceutical Company Association (GP Farmasi Indonesia), has issued the Indonesian Pharmaceutical Commercial Marketing Code of Ethics for Ethical Products. The purpose of this agreement is to maintain profitable business through healthy competition, so that the Indonesian pharmaceutical industry can develop in line with advances in science and technology. Therefore, the public needs certainty that ensures the availability, equitable distribution, and affordability of drugs (Tarigan et al., 2022).

In a press release, Minister of Health Budi Gunadi Sadikin stated that he suspected three dangerous chemicals, namely ethylene glycol (EG), diethylene glycol (DEG), and ethylene glycol butyl ether (EGBE), being used by businesses as ingredients in children's syrup. The Minister of Health urged that production of the drug be temporarily halted and withdrawn from circulation. Experts from Gadjah Mada University (UGM) stated that the children's syrup had been circulating in the community for a long time and was safe to use, but why was it now causing problems? 4 EG and DED were found to be used above the threshold of up to 99%, while the safe limit for use is only 0.1 milligrams per milliliter (Klaudia et al., 2022; Putri et al., 2023).

The Food and Drug Administration (BPOM), a non-governmental organization, stated in a press release that CV Samudera Chemical Tapos Depok is a supplier to the chemical distributor CV Anugerah Perdana Gemilang, a supplier of chemical drugs to CV Budiarta. CV Budiarta, as the supplier of propylene glycol, was found to have violated the pharmaceutical requirements of PT Yarindo Parmatama. Based on the violations committed by the aforementioned companies, BPOM revoked the distribution permits and destroyed the syrups produced and sold because they had caused acute kidney failure in children. BPOM Head Penny Lukito stated that EG and DEG It should not be used as a drug ingredient, as it is a substance that is hazardous to health. The business actors mentioned above have used additional solvents,

including propylene glycol, exceeding the 0.1 milligram/milliliter limit. The use of such high concentrations as a drug ingredient is hazardous to children's health and can cause fatal acute kidney failure very quickly (Dery & Akuntansi, 2022; Saputra, 2015).

Five (5) types of children's syrups have been recalled by the government: 1) Termorex Syrup (fever medication) produced by PT Konimex with distribution permit number DBL7813003537A1, box packaging, 60 ml plastic bottle. 2) Flurin DMP Syrup (cough and flu medication) produced by PT Yarindo Farmatama with distribution permit number DTL0332708637A1, box packaging, 60 ml plastic bottle. 3) Unibebi Cough Syrup (cough and flu medication) produced by Universal Pharmaceutical Industries with distribution permit number DTL7226303037A1, box packaging, 60 ml plastic bottle. 4) Unibebi Demam Syrup (fever medication) produced by Universal Pharmaceutical Industries with distribution permit number DBL8726301237A1, box packaging, 60 ml bottle. 5) Unibebi Demam Drops (fever medication) is produced by Universal Pharmaceutical Industries. Distribution permit number DBL1926303336A1, box packaging, 15 ml bottle. Furthermore, the Head of BPOM, Penny Lukito, announced that two more pharmaceutical companies had violated the use of hazardous raw materials: PT Ciubros Farma and PT Samco Farma. Their contamination with EG (ethylene glycol) and DEG (diethylene glycol) as solvents exceeded the safe threshold (Putri et al., 2023; Tarigan et al., 2022).

The Indonesian Food and Drug Authority (BPOM) announced in a press release that a glycol supplier, CV Samudera Chemical Tapos Depok, had been found to have violated pharmaceutical requirements. Based on these violations, BPOM revoked the company's distribution permit and destroyed the syrup produced by the company. The company used solvents exceeding the recommended limits.

A pharmaceutical company's marketing violation occurred in a case of pharmaceutical negligence that caused kidney failure in a child. This violation was proven to violate business ethics because the pharmaceutical wholesaler (PBF) was supposed to supply raw materials for the pharmaceutical industry. This provision does not align with the facts on the ground. This procedure should have been implemented to supply raw materials for the pharmaceutical industry, not CV Samudra Chemical Tapos Depok. In reality, CV Samudera Chemical Tapos was proven to be the supplier of propylene glycol. Therefore, the company was declared to have failed to meet pharmaceutical requirements and violated ethics in marketing its pharmaceutical business.

Pharmaceutical Companies' Ethics and Professionalism in the Drug Marketing Business must adhere to ethical and moral values so that the products marketed benefit society. Based on ethical principles, pharmaceutical companies should be able to implement them.

Furthermore, given the kidney failure case, the company is not responsible for its actions. Based on the principles of business ethics, companies should prioritize honesty regarding the composition of their drugs and comply with laws and regulations based on self-awareness in making decisions. Business ethics, which are guidelines for conducting business activities, encompass all values, from the individual to the community.

Ethics in business are expected to become a standard for carrying out work and a guideline, starting from management to employees, in carrying out their daily work. Relying solely on business will not be sufficient, as work relies solely on intelligence, skills, or technical expertise. The fundamental priority is how to build moral values first, because businesses have sound principles, namely, they can operate ethically, in accordance with values that align with existing rules and legal norms. In accordance with these principles, business ethics strongly demands honesty towards all parties. When terminating a partnership or entering into an employment agreement, dishonesty and fraud are commonplace. Distrust will arise, leading to a reluctance to collaborate with other parties (Hermawan, 2013; Tarigan et al., 2022; Yusuf et

al., 2020).

METHODS

The method used by the author in compiling this article is a literature review, a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing research and thought processes produced by researchers and practitioners. The purpose of a literature review is to analyze and synthesize existing knowledge related to the topic being studied to identify gaps for future research. The articles used as references in compiling this article come from several databases, including Google Scholar, PubMed, and online media such as kumparan.com, detik.com, and others.

A literature search was conducted by identifying all types of articles discussing business ethics violations in cases of pediatric kidney failure due to ethylene glycol contamination in pediatric syrups. The search strategy used the PICO method (patient, intervention, comparison, and outcome) (Eriksen & Frandsen, 2018). The keywords used in the literature search were a combination of the following: pediatric kidney failure AND Ethylene glycol AND Business ethics violation AND Drug marketing. The search results were limited to the years 2015 to 2023 and articles were manually selected that were relevant or aligned with the research questions.

RESULTS

This literature review presents five articles discussing pediatric kidney failure, ethylene glycol, business ethics violations, and drug marketing. Research conducted by Chang Hun Song et al. (2017) states that ethylene glycol is a highly dangerous substance for humans. If swallowed or ingested, it can cause organ damage and even death. This is because ethylene glycol can cause metabolic acidosis. This is supported by research conducted by Ermi Girsang et al. (2019), who conducted an experimental study using 25 male rats weighing 150-200 grams, which were induced by ethylene glycol and ammonium chloride. The results of this study showed kidney damage, particularly in the glomeruli, indicating thickening of the capillary walls, resulting in swelling or expansion of the thin layer of endothelial cells and the underlying basement membrane. After treatment with Balakka Fruit (Phyllanthus Emblica L.) Ethanol Extract, at a dose of 50 mg/kg body weight, necrotic cells were still present, while at a dose of 100 mg/kg body weight, the condition showed slightly better results, as there was no damage caused by the ethylene glycol and ammonium chloride.

The two research articles above demonstrate the mechanism of kidney damage caused by the hazardous substances ethylene glycol and similar substances, which should not be used in the manufacture of children's syrups. Various information and news reports obtained from online media identified cases of kidney failure in children due to the hazardous substances ethylene glycol (EG) and diethylene glycol (DEG), which caused kidney failure in 189 children, predominantly aged 1-5 years. Initial symptoms in children indicated acute kidney failure, such as diarrhea, nausea, vomiting, fever lasting 3-5 days, coughing, runny nose, drowsiness, and low urine output or even the inability to urinate (Hun Song et al., 2017; Masalskienė et al., 2021).

The third article, written by Arihta Esther Tarigan et al., 2022, states that the violations committed by the business actor producing children's syrups involved using hazardous drug ingredients, exceeding the recommended dosage. Civil liability includes compensation and compensation to the victim's family. Criminal liability includes fraud by using hazardous drugs that should not be used as ingredients in medicines and failing to provide accurate, clear, and honest information about the ingredients listed on the label.

Pharmaceutical products produced and traded by business actors must meet quality

standards, and must be provided with accurate, honest, and clear information about the products produced and traded after undergoing testing and inspection by the Food and Drug Authority (BPOM). However, in reality, many products circulating in the community do not meet quality standards and endanger the health of consumers. The recent case of a child's syrup causing fatal acute kidney failure in children is one example of a drug product that does not meet quality standards, endangering consumer health. The question is how are business actors responsible for producing syrups that cause acute kidney failure in children? This is supported by Neneng Putri Siti Nurhayati, 2023, who wrote an article on "Drug Marketing in the Pharmaceutical Industry: Issues of Professionalism and Business Ethics." In a case study conducted by Neneng et al., 2023, they stated that pharmaceutical companies have not fully adhered to proper ethics and professionalism in the drug marketing business, where the company's actions have resulted in losses and undermined public trust. As was the case with CV Samudera Chemical Tapos Depok, which was declared to have violated the provisions of Article 8 paragraph (1) letter c of Law No. 8 of 1999 concerning Consumer Protection. It was found to have used the solvents Ethylene Glycol (EG) and Diethylene Glycol (DEG) beyond the procedural limit of 0.1 milligrams/milliliter.

In a press release, Minister of Health Budi Gunadi Sadikin stated that he suspected three dangerous chemicals, ethylene glycol (EG), diethylene glycol (DEG), and ethylene glycol butyl ether (EGBE), were being used by businesses as ingredients in children's syrup. The Minister of Health urged that production of the drug be temporarily halted and withdrawn from circulation.

The Food and Drug Monitoring Agency (BPOM), a non-governmental organization, stated in a press release that CV Samudera Chemical Tapos Depok, a supplier to a chemical distributor, and CV Anugerah Perdana Gemilang, a supplier of chemical drugs to CV Budiarta. CV Budiarta, as the supplier of propylene glycol, was found to have violated the pharmaceutical requirements of PT Yarindo Parmatama. Based on the violations committed by the companies mentioned above, BPOM revoked the distribution permits and destroyed the syrup produced and sold because it had caused acute kidney failure in children.

The three companies are PT Universal Pharmaceutical Industries, PT Yarindo Farmatama, and

PT Afi Farma. The Indonesian Food and Drug Monitoring Agency (BPOM) imposed administrative sanctions and criminalized the three companies because it found evidence that the companies had changed their raw material sources without reporting. BPOM suspended production and distribution, recalled the products, and destroyed the products of the three companies. BPOM also revoked the Good Manufacturing Practice (CPOB) certificates of Universal Pharmaceutical and Yarindo Farmatama. The three companies also face a maximum sentence of 10 years in prison and/or a maximum fine of IDR 1 billion. These criminal penalties are imposed because the three companies are suspected of violating Article 196 of Law Number 36 of 2009 concerning Health (Data Journalism, November 2022).

Article 5 discusses Dirty Business Practices in the Pharmaceutical Industry Within the Framework of Intellectual Capital and Teleology Theory. In this article, Sigit Hermawan, 2013, writes about the persistence of ethical and moral deviations in the pharmaceutical industry in Indonesia. These deviations occur both during drug manufacturing and during the sales and marketing process. These deviations range from improper raw material selection, manipulation of drug composition, storage of damaged and discarded products, and misuse of herbal medicines containing chemical additives. Ethical violations also occur in drug marketing, such as entering into collaborations or private sales contracts with doctors, hospitals, and pharmacies. From an Intellectual Capital perspective, these practices indicate improper management and empowerment of intellectual capital (IC). Based on teleology theory, these practices constitute ethical egoism, which must be transformed into utilitarianism.

Based on the experience of the above cases, particularly the acute kidney failure cases in children caused by the hazardous substances ethylene glycol and diethyl glycol, stricter oversight by the Food and Drug Authority (BPOM) and increased ethical and moral awareness among business actors, particularly pharmaceutical companies, are necessary.The BPOM (Indonesian Food and Drug Authority) has provided an explanation in the information article "Four Results of BPOM's Supervision of Medicinal Syrups Suspected of Containing Ethylene Glycol (Eg) and Diethylene Glycol (Deg) Contamination," which states “Regarding the developments in BPOM's supervision of medicinal syrups suspected of containing Ethylene Glycol (Eg) and Diethylene Glycol (DEG) contamination, BPOM provides the following information”:

1) Based on the results of routine monitoring conducted by the Indonesian Food and Drug Authority (BPOM), the medicinal syrups in circulation still meet safety, efficacy, and quality requirements. Regarding medicinal syrups, the BPOM has implemented risk-based regulatory measures, including tracing registered and circulating medicinal syrups in Indonesia, conducting sampling, and conducting phased testing of medicinal syrups suspected of containing EG and DEG contaminants.
2) In conducting testing for suspected EG and DEG contaminants in medicinal syrups, the Indonesian Pharmacopoeia and/or other references in accordance with Law Number 36 of 2009 concerning Health serve as the national standard for quality assurance of all medicines in circulation.
3) The medicinal syrup suspected of containing EG and DEG contaminants likely originates from four additional ingredients: propylene glycol, polyethylene glycol, sorbitol, and glycerin/glycerol, which are not hazardous or prohibited for use in the manufacture of medicinal syrups. According to the Pharmacopoeia and recognized national standards, the safe threshold or Tolerable Daily Intake (TDI) for EG and DEG contaminants is 0.5 mg/kg body weight per day.
4) The Indonesian Food and Drug Authority (BPOM) has sampled 39 batches of 26 medicinal syrups suspected of containing EG and DEG contaminants based on the following sampling and testing criteria:
a. Suspected of being used by patients with acute kidney failure before and during their hospitalization.
b. Produced by a manufacturer using four solvents: propylene glycol, polyethylene glycol, sorbitol, and glycerin/glycerol in large volumes.
c. Produced by a manufacturer with a track record of minimal compliance with quality standards.
d. Produced from a supply chain suspected of originating from a source with quality risks.
5) Sampling and testing results on 39 batches of 26 medicinal syrups as of October 19, 2022, showed EG contamination exceeding the safe threshold in the following five products:
a. Termorex Syrup (fever medicine), produced by PT Konimex with distribution permit number DBL7813003537A1, packaged in a box, 60 ml plastic bottle.
b. Flurin DMP Syrup (cough and flu medicine), produced by PT Yarindo Farmatama with distribution permit number DTL0332708637A1, packaged in a box, 60 ml plastic bottle.
c. Unibebi Cough Syrup (cough and flu medicine), produced by Universal Pharmaceutical Industries with distribution permit number DTL7226303037A1, packaged in a box, 60 ml plastic bottle.
d. Unibebi Demam Syrup (fever medicine), produced by Universal Pharmaceutical Industries with distribution permit number DBL8726301237A1, packaged in a box, 60 ml bottle.
e. Unibebi Fever Drops (fever medication), produced by Universal Pharmaceutical Industries, with distribution permit number DBL1926303336A1, comes in a box and a 15 ml

bottle.

However, the results of the EG contamination test do not yet support the conclusion that the use of this medicinal syrup is linked to acute kidney failure. Besides medication use, there are several risk factors for acute kidney failure, such as viral infections, Leptospira bacteria, and multisystem inflammatory syndrome in children (MIS-C) or post-COVID-19 multisystem inflammatory syndrome.

6) Based on the test results of five medicinal syrups containing EG exceeding the safe threshold as stated in point 5, the Indonesian Food and Drug Authority (BPOM) has taken follow-up action by ordering pharmaceutical companies holding distribution permits to withdraw the medicinal syrups from circulation throughout Indonesia and destroy all product batches. The recall covers all outlets, including pharmaceutical wholesalers, government pharmaceutical installations, pharmacies, hospital pharmaceutical installations, community health centers, clinics, drug stores, and independent healthcare practices.

7) The Indonesian Food and Drug Authority (BPOM) has instructed all pharmaceutical companies producing medicinal syrups that may potentially contain EG and DEG contaminants to report their independent testing results as a form of business responsibility. Pharmaceutical companies can also take other measures, such as changing drug formulas and/or raw materials, if necessary.

8) BPOM, together with the Ministry of Health, pharmaceutical experts, clinical pharmacology experts, the Indonesian Pediatrician Association (IDAI), and other relevant parties, is continuing to comprehensively investigate and research various possible risk factors for acute kidney injury (AKI).

9) The BPOM will continue to update information regarding the results of its monitoring of medicinal syrups according to the latest data.

10) The BPOM encourages healthcare professionals and the pharmaceutical industry to continue actively reporting drug side effects or adverse events following drug use to the National Pharmacovigilance Center/MESO through the e-MESO Mobile application.

11) The Indonesian Food and Drug Authority (BPOM) urges the public to be vigilant, be smart consumers, and always pay attention to the following:

a. Purchase and obtain medicines only from authorized facilities, namely pharmacies, drug stores, community health centers, or the nearest hospital.

b. Purchase medicines online only from pharmacies that have obtained a Pharmaceutical Electronic System Operator (PSEF) permit.

c. BPOM continuously conducts cyber patrols on websites, social media, and e-commerce platforms to detect and prevent the circulation of illegal medicines.

d. Implement the KLIK Check (Check Packaging is in good condition, Label, Distribution Permit, and Expiration Date) before purchasing or using medicines.

Table 1. Gird Synthesis

No	Author/ Country	Title	Research purposes	Research Design and Sample	Results	Conclusion

1	Chang Hun Song, Hong Jin Bae, Young Rok Ham, Ki Ryang Na, Kang Wook Lee, Dae Eun Choi Department, 2017/ Korea	A case of Ethylene glycol intoxication with acute renal injury: Successful recovery by fomepizole and renal replacement therapy	A case study of acute renal failure caused by ethylene glycol poisoning treated with fomepizole and hemodialysis in Daejeon, Korea.	Case study, sample 5 patients who experienced ethylene glycol poisoning	Ingestion of ethylene glycol can be fatal, even in small amounts. Poisoning should be suspected when a significantly increased osmolar gap or metabolic acidosis with a high anion gap is found in blood tests. Hemodialysis and alcohol dehydrogenase inhibitors such as ethanol and fomepizole are part of the basic treatment, and timely diagnosis and treatment are crucial, as any delay can lead to death.	Ethylene glycol is a very dangerous substance for humans. If swallowed or ingested, it can cause organ damage and even death.
2	Ermi Girsang, Marlinang I. Silalahi, Piyanto Halim.,2019/ Indonesia	Kidney Histology of Rats with Nephrolithiasis After Induction with Ethylene Glycol and Ammonium Chloride and Given Ethanol Extract of Balakka Fruit (Phyllanthus Emblica L.)	To determine the kidney histopathology of rats with nephrolithiasis after being induced by ethylene glycol and ammonium chloride, as well as those given ethanol extract of balakka fruit.	Experimental research. Sample : 25 male rats weighing 150-200 grams were divided into 5 groups, each consisting of 5 rats: a. Normal control: normal rats b. Induction control: rats induced with 0.75% ethylene glycol and 2% ammonium chloride at 1% concentration c. Dose I: induced rats + extract at a concentration of 50 mg/kg body weight. d. Dose II: induced rats + extract at a concentration of 100 mg/kg body weight.	In rats induced by ethylene glycol in the kidneys, changes in the glomerular arteries were observed. This was influenced by the severity and duration of the treatment. In the early stages, the glomeruli may show thickening of the capillary walls, resulting in visible swelling or expansion of the thin layer of endothelial cells and the underlying basement membrane.	Kidney histological features: When given a dose of 50 mg/kg body weight (BW) of extract, there were still necrotic cells, while at a dose of 100 mg/kg body weight, the condition was slightly better because there was no damage due to the administration of ethylene glycol and ammonium chloride.

3	Arihta Esther Tarigan, Ralang Hartati, Syafrida, Erna Amalia., 2022/ Indonesia	Responsibilities of Business Actors in Producing Liquid Syrup Causes Acute Kidney Failure in Children	Knowing how business actors are responsible for producing drugs Syrup causes fatal acute kidney failure in children	Library Research. There are no samples.	The products that are produced and traded by business actors must The product meets quality standards, and information is correct, honest, and clear regarding the products produced and sold after undergoing testing and inspection by the Food and Drug Authority (BPOM). However, in reality, many products are still found in the community that do not meet quality standards and endanger the health of consumers. The recent case of children's syrup that caused fatal acute kidney failure in children is one example of a drug product that does not meet quality standards and is dangerous consumer health. Problems, How are business actors responsible for producing syrups that cause acute kidney failure in children?	Violations committed by business actors producing children's syrup medicines Using dangerous drug ingredients, exceeding the maximum limit. Civil liability includes providing compensation and compensation to the victim's family. Criminal liability includes fraud by using dangerous drugs that should not be used as drug ingredients and failing to provide accurate, clear, and honest information about the composition listed on the label.
4	Neneng Putri Siti Nurhayati, Gusti Mashafira Berlia, Faiq Fikrilyan Sasongko, Elvira Valentine., 2023/Indonesia	Drug Marketing in the Pharmaceutical Industry: Issues of Professionalism and Business Ethics	Understanding the issues of professionalism and business ethics in drug marketing and adding a moral burden to improve the social standing of the community	Descriptive analysis using literature study. Observation at 1 company	The actions taken by CV Samudra Chemical Taposnot fully Depok were declaredadhered to to have violated theproper ethical provisions of Articleand 8 paragraph (1) letterprofessional c of Law No. 8 of 1999 concerning Consumer Protection. It was found to have used the solvents Ethylene Glycol (EG) and Diethylene Glycol (DEG) beyond the threshold limits in accordance with	Pharmaceutical companies have standards in the drug marketing business, resulting in losses and a loss of public trust.

					the procedures, namely 0.1 milligram/milliliter.	
5	Sigit Hermawan., 2013/ Indonesia	Dirty Practices in the Pharmaceutical Industry Within the Framework of Intellectual Capital and Teleology Theory	To uncover the dirty business practices of the Indonesian pharmaceutical industry.	Qualitative with an interpretive paradigm. The key informants in this study were pharmaceutical company managers (informants KK, ER, DS, AP), supervisors (informant NA), former pharmaceutical company managers (informant YAS), the management of GP Farmasi Indonesia in East Java (informant M), IC researchers (informants ZF and WH), pharmaceutical industry observers (informants UA and DH), and representatives of government agencies related to pharmaceuticals (informan TK)	Dirty practices persist in the pharmaceutical industry in Indonesia. These range from improper raw material selection, manipulation of drug composition, improper storage of damaged and discarded products, to the misuse of herbal medicines containing chemicals. Ethical violations also occur in drug marketing, namely by entering into collaborations or private contracts with doctors, hospitals, and pharmacies to sell certain drugs. Such practices, according to an Intellectual Capital review, demonstrate There is improper management and empowerment of IC. Based on teleology theory, this practice falls under ethical egoism, which must be transformed into utilitarian behavior.	Business practices in the pharmaceutical industry in Indonesia are often marked by ethical and moral deviations. These deviations occur both during drug manufacturing and during the sales and marketing processes.

CONCLUSION

1. There have been 189 cases of kidney failure in children due to the hazardous ingredients ethylene glycol and diethyl glycol in children's syrups on the market.
2. It has been proven that the chemicals ethylene glycol and diethyl glycol can damage the kidneys in the glomerulus, causing necrosis and thickening of the glomerular capillary walls.
3. There has been a violation of the provisions of Article 8 paragraph (1) letter c of Law No. 8 of 1999 concerning Consumer Protection. The company was found to have used the solvents ethylene glycol (EG) and diethylene glycol (DEG) beyond the procedural limit of 0.1 milligrams per milliliter.
4. There has been a violation of business ethics by the business actor in producing children's syrups using hazardous drug ingredients, exceeding the limit.

5. There are criminal and civil sanctions. Civil liability includes providing compensation and compensation to the victim's family. Criminally responsible, the perpetrators committed fraud by using dangerous drugs that should not be used as a drug compound and failed to provide accurate, clear, and honest information about the composition listed on the label.
6. The Indonesian Food and Drug Monitoring Agency (BPOM) halted production and distribution, recalled the products, and destroyed the products of the three companies. BPOM also revoked the Good Manufacturing Practices (CPOB) certificates of Universal Pharmaceutical and Yarindo Farmatama. The three companies also face a maximum sentence of 10 years' imprisonment and/or a maximum fine of IDR 1 billion.

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