

ORIGINAL ARTICLE

A Criminological Review of Dextromethorphan Abuse By Adolescents

Cahya Agmelya Sayu¹, Sapta Aprilianto¹, Mochamad Kevin Romadhona²

¹ Faculty of Law, Universitas Airlangga, Jl. Dharmawangsa Dalam Selatan, Airlangga, Kec. Gubeng, Kota SBY, Jawa Timur 60286

² Faculty of Social and Political Science, Universitas Airlangga, Jl. Dharmawangsa Dalam Selatan, Airlangga, Kec. Gubeng, Kota SBY, Jawa Timur 60286

ABSTRACT

Introduction: Dextromethorphan is a cough medicine that is sold freely with mild side effects at normal doses can be easily found in pharmacies. It has led many people to use dextromethorphan. As its use and benefits, dextromethorphan can be categorized as a schedule III narcotics. **Methods:** This research uses the type of doctrinal research that discusses the understanding, principles, legal concepts, related laws and regulations, as well as analyzing the laws. **Results:** The easy access to obtain this drug lead to dextromethorphan abuse, especially in adolescents who have side effects of mumbling, sweating, walking disorder, etc. upon seeing this phenomenon, the functions and roles of law enforcers are highly required in the settlement. Apart from the law enforce, the role of society is also needed in the prevention of dextromethorphan abuse by adolescents. However, the process of law enforcers also encounters obstacles. **Conclusions:** Therefore, this paper will discuss the efforts and the obstacles of law enforcers in overcoming dextromethorphan abuse by using a conceptual approach that aims a review and consideration in this application.

Keywords: Dextromethorphan, Dextromethorphan Abuse, Law Enforcer Action, Law Enforcement Obstacles

Corresponding Author:

Sapta Aprilianto, S.H., M.H., LL.M.
Email: sapta@fh.unair.ac.id
Tel: + 62-878-0314-3574

INTRODUCTION

Narcotics are substances that are originally intended for medicinal purposes (1). However, along with the development of science and technology, narcotics are actually misused and no longer used for medicinal purposes (2). Narcotics have threatened the continuity of the existence of a nation's generation (3). One type of narcotic substance is dextromethorphan (4). Dextromethorphan is a drug that belongs to the class of antitussives, which are useful for dry coughs (5). Antitussives work by suppressing the cough reflex in the nervous system (6). Thus, antitussive drugs are not suitable for use in coughs accompanied by phlegm because they can exacerbate symptoms by the presence of phlegm that collects in the respiratory tract (7). Dextromethorphan is also not recommended

for prolonged chronic cough (8). This drug is one of the drugs that can be abused if it is not consumed according to its indications (9). It is necessary to pay attention to the rules, side effects, and special circumstances in the use of this drug. Consultation with a doctor first before taking dextromethorphan is important.

Dextromethorphan abuse by teenagers is usually done by consuming it directly or mixed with other drugs. The effects of taking this drug in excess are slurred speech, irritability, trouble walking, sweating, and spinning eyeballs (10). This abuse by teenagers is certainly not something that is done naturally. However, there are factors that support these violations.

Upon looking at this phenomenon, the Police are also required to play their functions and roles as law enforcement officers to conduct their obligations in accordance with the law regulated in Act Number 2 of 2002 concerning the Police (11). The community is also required to take part in the supervision and prevention of violations committed by teenagers. In

addition, pharmacies are also one of the places where dextromethorphan can be found. They also take part in preventing excessive purchases of this drug, especially by teenagers.

Tackling juvenile delinquency is not the same as treating disease. This is because delinquency is a complex matter with its causes and types. In dealing with teenagers, the thing to remember is that they still have a soul full of turmoil and curiosity. Moreover, the social environment of adolescents is also characterized by rapid social changes that result in norm distortion.

Based on the above background, the researcher is interested in conducting an analysis of related research, which aims to determine the factors behind the dextromethorphan abuse by adolescents, the efforts made by the Police in tackling this abuse by adolescents, and the obstacles experienced by the Police in dealing with them.

MATERIALS AND METHODS

This research uses the type of doctrinal research that discusses the understanding, principles, legal concepts, related laws and regulations, as well as analyzing the laws (12), of one another that are relevant to the problems discussed in this study. The researcher also uses two approaches in this research, namely the statutory approach and the conceptual approach. The legislative approach is conducted by examining the national legal regulations (13), especially those relating to narcotics and the Police. Meanwhile, the conceptual approach focuses on examining various views that have developed in legal science, such as definitions, concepts, and legal principles (14), related to the problems in this research. The sources of legal materials used are primary legal and secondary legal sources. The primary sources of law are in the form of national legal provisions relating to the law enforcement related to health and narcotics, such as Act Number 36 of 2009 concerning Health, Act Number 35 of 2009 concerning Narcotics, and Act of the Republic of Indonesia Number 2 of 2002 concerning the Indonesian National Police. On the other hand, the secondary legal sources are literature, doctrines or expert opinions, journals, articles, official reports from related institutions, as well as other necessary materials obtained from electronic media, such as the internet.

RESULTS

Definition, Use, and Side Effects of Dextromethorphan
Dextromethorphan (DMP) is a morphine derivative compound, which has the chemical or IUPAC name (+)-3-methoxy-17-methyl-(9 α ,13 α ,14 α)-morphinan, a dextro isomer of levomethorphan (15). This compound is quite complex because it has the ability to bind to several receptors. Hence, it is considered to have many effects. Dextromethorphan is a drug from the morphine class with sedative, dissociative, and stimulant properties

(at high doses) (16). Sedatives are compounds that cause sedation, which is a condition of decreased sensitivity to external stimuli due to mild central nervous system suppression (17). Sedatives are also used to suppress anxiety caused by emotional tension (18), and chronic stress (19) caused by illness or psychological factors, to control seizures, to support the effects of systemic anaesthetics, and the treatment of hypertension (20). Sedatives in large doses can cause deep sleep (21).

Dextromethorphan is generally introduced as an antitussive (22) or cough suppressant, which is a temporary relief from coughs caused by bronchial irritation and coughs caused by irritating particles that have been inhaled (23). This drug can be obtained freely and is easily found in cough and cold medicine preparations. However, dextromethorphan is not recommended for use in long-term coughs or coughs that produce phlegm (24). Moreover, based on the explanation of Article 6 paragraph (1) letter c of Act Number 35 of 2009 concerning Narcotics that, "Narcotics Group III is narcotics with medicinal properties and is widely used in therapy and/or for the purpose of developing science (25). It also has mild potential which leads to dependence (26)." Considering the explanation of that article, it can be concluded that dextromethorphan is a drug that is included in the category III Narcotics (4).

The dose used in the use of dextromethorphan is in adults 10-20 mg orally (27), every 4 hours or 30 mg every 6 to 8 hours with a maximum dose of 120 mg per day (28); in children aged 6-12 years is orally 5-10 mg every 4 hours or 15 mg every 6-8 hours with a maximum dose of 60 mg/day; and in children aged 2-6 years is orally 2.5-5 mg every 4 hours or 7.5 mg every 6-8 hours with a maximum dose of 30 mg/day (28). The effects of this drug can last 5-6 hours after oral use (29), which, if used according to the rules, is considered safe and rarely causes significant side effects (30).

The side effects that can be found in the use of this drug are dependent on the dose used (31). In normal doses, side effects that can occur are nausea, vomiting, drowsiness, body rash or itching, dizziness, constipation, sedation, diarrhoea, anxiety, confusion, or hallucinations of closed eyes (32). A rare side effect is a respiratory depression (33). Meanwhile, at the doses of three to ten times the normal dose, the side effects that can occur are restlessness, mild nausea, euphoria, increased energy, fast speech, increased confidence, pupil enlargement or teary eyes, and increase strength. Even higher than that, at a dose of fifteen to seventy-five times the recommended dose, the side effects that can occur are hypertension, hypotension, hallucinations, vomiting, blurred vision, red eyes, fever, bruxia, tachycardia, urinary retention, muscle weakness, seizures, sedation, euphoria, paresthesias, skin rashes, inability to focus the eyes, and sweating (34).

Considering the use of this drug, if it is used according to the rules and in the appropriate dosage, it will not cause harmful side effects. However, if its use exceeds the dose limit, this will endanger the physical and mental health of a person. It is included as well in the category of drug abuse of dextromethorphan. The abuse of health drugs is included in the category of drug abuse according to the Act of the Republic of Indonesia Number 35 of 2009 concerning Psychotropic and Illegal Drugs, and the Act of the Republic of Indonesia Number 36 of 2009 concerning Health.

Based on research conducted by Roringpandey et al 2013 concerning on dextromethorphan users, the cases of Dextromethorphan in Minahasa District, this research involved 50 respondents and found that 74 percent or 37 respondents dextromethorphan users are male and 26 percent or 13 respondents are female, the age average for male are in 17 – 25 years old and female are 26 – 35 years old which more specifically that male are most dominant with percentage of 56% or 28 respondents and 44% are female with total female respondents are 22 people (35).

The Factors Behind Dextromethorphan (DMP) Abuse by Adolescents

There are several factors that cause dextromethorphan abuse in general, namely as follows:

a. Dextromethorphan drug is easy to obtain because it is sold freely in pharmacies and other drug stores. Dextromethorphan, which is usually abused, is in the tablet form because it is suspected that higher doses can be obtained than in the other forms.

b. The price of dextromethorphan is relatively low, which is the highest retail price for dextromethorphan HBr 15 mg tablet with a box of 10 x 10 tablets is IDR. 14,850 (fourteen thousand eight hundred and fifty rupiahs). This is in accordance with the Decree of the Minister of Health of the Republic of Indonesia of 2012 Number 092/MENKES/SK/II/2012 concerning the Highest Retail Price of Generic Drugs (36).

c. Because dextromethorphan is an over-the-counter cough medicine, the public stigma says it is a safe drug. Hence, some people think that dextromethorphan abuse is safer than narcotics or other psychotropic drugs that have more rigid regulations.

Meanwhile, the abuse of dextromethorphan by adolescents can be caused by several factors, namely as follows:

1. Internal factors

a. Personality factor

Weak personality factors can cause teenagers to have traits and attitudes that are not firm in acting. Hence, they are easily influenced by habits in the social environment. Besides, they are also not firm in dealing with a problem. Weak personality and lack of self-control by adolescents can cause them to easily fall into negative things, for example, dextromethorphan abuse.

b. The factor of curiosity and the desire to try Adolescence is a time when curiosity about something new is very big and passionate. It is similar to trying dextromethorphan, which is started just out of curiosity. Instead, it continues and results in dependence.

2. External Factors

a. Environmental factor

- Family environment

The family environment is the most important one in the growth and development of a child. The most important factor in the family environment is the parent factor, which is one of the most frequent factors influencing children or adolescents in committing deviant acts, such as dextromethorphan abuse. Bad family habits can also affect teenagers, which will result in a child not obeying the rules and will lead to greater violations or crimes. The influencing factors include (a) parents who are less communicative with children, (b) family conditions or parents who are less harmonious, (c) parents who have separated or divorced, (d) parents who always let their children with all facilities, (e) parents who both abuse drugs, narcotics, alcohol, etc.

- Community environment

The community environment outside the family environment also has an influence on adolescent behaviour in acting, including deviant behaviour with dextromethorphan abuse. These factors are: (a) easy to obtain dextromethorphan, (b) pharmacists who are less sensitive or seem to let it go, (c) affordable price of dextromethorphan, (d) many musical events in the community, and (e) people who allow or don't care.

- Social environment

A person's behaviour will be reflected in the environment in which he hangs out. Free association without rules will make a person fall into a life that is contrary to the norms that apply in society. The factors that influence the social environment namely: (a) a sense of prestige between friends, (b) requirements for entering a group of teenagers, (c) solidarity between friends, and (d) ridicule or gossip by friends.

b. Educational factor

Educational background is one of the important factors in the growth of children or adolescents. Adolescents who have a low educational background tend to do something deviant or commonly called juvenile delinquency. This juvenile delinquency can interfere with the rights of others, including himself, others, and society in general.

Based on the description above, when considered from the scope of criminology, the abuse of dextromethorphan committed by the teenager is included in the crime. This is because dextromethorphan abuse is an act that violates or is called a violation. According to Prof. Moeljatno, S.H., crime is also referred to as a violation. It

means that acts according to the law are punishable by a criminal offence and criminality, which includes crimes and bad behaviour. Furthermore, it can be concluded that adolescents who abuse can be called criminals, as well as public reactions to the actions and perpetrators of crimes of dextromethorphan abuse who view that these actions are detrimental and can endanger the wider community.

However, in this case, teenagers who abuse dextromethorphan cannot be processed by the Police. This is because dextromethorphan is a type of drug that is sold freely and is limited. According to the information from Kaur Bin Ops (KBO) of the Jepara Police Narcotics Unit, the teenagers who abuse dextromethorphan will only be processed as witnesses. Afterwards, the Police will look for information from where they obtained dextromethorphan. If the results of the obtained information involve people in the community who do not have a permit, then that person will be the one who will be legally processed.

In addition, the factors that cause deviant behaviour conducted by adolescents, in general, are as follows: (37)

- a. Inability to absorb cultural norms, which occurs when individuals are unable to distinguish appropriate and inappropriate behaviour caused by imperfect socialization processes;
- b. The deviant learning process, which occurs when individuals interact socially, especially with other individuals who are experienced in deviant behaviour;
- c. The tension between culture and social structure. This can occur if individuals are not given guidelines in realizing the goals and ways recommended by culture. Hence, it will lead to the possibility of deviant behaviour;
- d. Different social ties. This is usually associated with different groups where relationships with these groups tend to make individuals identify themselves with the most valued groups so that deviant behaviour is likely to occur;
- e. As a result of the socialization process of deviant sub-cultural values, this can happen intentionally or unintentionally, which occurs through dark groups whose purpose is open to teaching deviant behaviour.

DISCUSSION

The Efforts made by the Police in Overcoming the Abuse of Dextromethorphan (DMP) by Adolescents

A criminal act is an act that is not appropriate or violates a rule of law or an act that is prohibited by the rule of law accompanied by criminal sanctions where the rule is aimed at the act. Meanwhile, the threat or criminal sanction is directed at the person who committed the incident or the person who caused the incident.

In accordance with article 4 of Act Number 2 of 2002, it states that the purpose of the Indonesian National Police

is to realize internal security. Article 5 paragraph (1) states that the Police are a state instrument that plays a role in maintaining public security and order, upholding the law, providing protection, as well protection and services to the community in the context of maintaining domestic security. Moreover, article 13 regulates the main tasks of the Indonesian National Police, namely (1) Maintaining public security and order; (2) Enforce the law; and (3) Providing protection and services to the community.(38) Meanwhile, according to Soedjono, the best crime prevention efforts must meet the following requirements, which are a good police system and operation; an effective judiciary; authoritative laws and regulations; coordination between law enforcement and government officials that are harmonious; community participation in overcoming crime; supervision and preparedness against the possibility of crime; and fostering community organizations (39). The flow of countermeasures that can be conducted by the Police are as follows:

1. Prevention Efforts

a. Pre-emptive Effort

The earliest prevention efforts were conducted by members of the Police, including the outreach activities. For example, socialization, counselling, and the creation of control posts. This creation is conducted in several high schools in each region in Indonesia, the health department, and at the Resort Police by the Community Development section to the community directly with the target to influence the causative factors of drug abuse in general and dextromethorphan in particular (40).

b. Preventive Effort

The purpose of preventive efforts is to provide guidance to the community to be aware of and obey the law. Afterwards, it can also play an important role in the practice of violating the law, especially against the abuse of dextromethorphan itself. The preventive efforts that can be conducted by the Narcotics Unit are through raids, in collaboration with government agencies, NGOs and the community, as well as implementing the GANAS (Anti-Drugs Movement for School Children) program.

2. Enforcement Efforts (repressive)

Repressive actions are conducted with the aim that the violations or irregularities that are currently occurring can be stopped. The repressive efforts by the Police started from the investigation stage to seek information about the misuse of dextromethorphan which included observations, interviews, surveillance of targets, and undercover both by the police intelligence and from informants. Afterwards, it is the investigation effort. If there is an arrest, the action taken is a search and confiscation of evidence. Adolescents caught red-handed consuming dextromethorphan will only be processed as witnesses. Afterwards, they will be interviewed about information from where they obtained dextromethorphan. If from

the results of the information obtained that there are people in the community who do not have a license to sell that, then that person will be legally processed for violating the provisions of Article 196 and Article 197 of the Act of the Republic of Indonesia Number 36 of 2009 concerning Health, which are as follows: (41)

Article 196

Any person who intentionally produces or distributes pharmaceutical preparations and/or medical devices that do not meet the standards and/or requirements for safety, efficacy or benefit, and quality as referred to in Article 98 paragraph (2) and paragraph (3) shall be subjected to imprisonment for a maximum of 10 (ten) years and a maximum fine of IDR. 1,000,000,000.00 (one billion rupiahs).

Article 197

Anyone who intentionally produces or distributes pharmaceutical preparations and/or medical devices that does not have a distribution permit as referred to in Article 106 paragraph (1) shall be subjected to a maximum imprisonment of 15 (fifteen) years and a maximum fine of IDR. 1,500,000,000.00 (one billion five hundred million rupiahs).

Based on this explanation, it can be seen that there are two paths in overcoming cases of dextromethorphan abuse: the criminal pathway, which focuses more on repressive efforts after the crime has occurred, and the extra-criminal path, which focuses more on preventive efforts before the crime occurs.

The Obstacles experienced by the Police in Overcoming the Abuse of Dextromethorphan (DMP) by Adolescents Related to overcoming the drug abuse, dextromethorphan, especially in adolescents, can not be separated from the obstacles that can be encountered by the police personnel. The following are the obstacles that can occur in efforts to overcome the abuse of dextromethorphan drugs:

a) Internal factors

- The number of police personnel of the Jepara Police Narcotics Unit;
- Leaking of information in terms of conducting their duties, whether in investigations, arrests, undercover, and surveillance. Information is very confidential.
- The lack of funds in conducting their duties. This is because it takes quite a large amount of money to support them, such as financing informants, undercover, operations, etc.

b) External factors

- Legal regulations are less clear (grey) against dextromethorphan. Hence, it will be difficult to determine whether the drug is abused or not by the public;
- The lack of awareness by related parties (pharmacies and health offices);
- A less cooperative society, where community participation is very low because they still think that this

is the duty and responsibility of the Police. Therefore, that people do not seem to care about the phenomena around them.

Regarding the obstacles caused by internal factors, this should also be resolved internally between the Narcotics Unit police personnel in each region. Meanwhile, for the obstacles caused by external factors, especially awareness by pharmacies and the health department who are still less sensitive in paying attention to teenagers who buy dextromethorphan in excess, it is hoped that the community can be more cooperative in helping the Police to prevent the abuse of large amounts of dextromethorphan, especially in adolescents.

CONCLUSION

The first one, the factors behind the dextromethorphan abuse by adolescents in the Jepara Regency, consist of internal and external factors. The internal factors consist of personality factors and curiosity/desire to try from the self of teenagers. Meanwhile, the external factors consist of environmental factors, both the family environment, the community environment, and the educational environment of adolescents who abuse dextromethorphan. The second one, the efforts made by the Jepara Police in tackling the dextromethorphan abuse by adolescents, are based on the functions, duties, and authorities of the Indonesian National Police, which are through prevention efforts consisting of pre-emptive and preventive actions. Furthermore, it is through enforcement efforts and repressive actions by the Narcotics Unit. The third one, the obstacles experienced by the Police in overcoming the dextromethorphan abuse by adolescents, consist of internal and external factors from the Police. The internal factors consist of the number of Narcotics Unit Personnel who do not comply, leaks of information, and the lack of funds by the Police. The external ones consist of unclear legal regulations regarding dextromethorphan, lack of awareness from related parties (pharmacies and the Health Service), and people who are less cooperative with the Police.

ACKNOWLEDEMENT

We would like to thank to LIPJPHKI Universitas Airlangga, Faculty of Law, Universitas Airlangga, Reworking Team LIPJPHKI, and ICLGG

REFERENCES

1. Parekh N, Papa S, Drnach A, Spiegel L, Huang Y, Manolis C, et al. Effect of carving in pharmacy benefits on utilization and costs. *J Manag Care Spec Pharm.* 2020;26(10):1317–24.
2. Ekor M. The growing use of herbal medicines: issues relating to adverse reactions and challenges in monitoring safety. *Front Pharmacol.* 2014 Jan;4:177.

3. Solimano A. Political Crises, Social Conflict and Economic Development. *Polit Cris Soc Confl Econ Dev*. 2013;
4. Spangler DC, Loyd CM, Skor EE. Dextromethorphan: a case study on addressing abuse of a safe and effective drug. *Subst Abuse Treat Prev Policy* [Internet]. 2016 Jun 23;11(1):22. Available from: <https://pubmed.ncbi.nlm.nih.gov/27333886>
5. National Center for Biotechnology Information. Dextromethorphan [Internet]. PubChem Compound Summary for CID 5360696. 2021 [cited 2021 Nov 24]. Available from: <https://pubchem.ncbi.nlm.nih.gov/compound/Dextromethorphan>
6. Lee PCL, Jawad MSM, Eccles R. Antitussive Efficacy of Dextromethorphan in Cough Associated with Acute Upper Respiratory Tract Infection. *J Pharm Pharmacol* [Internet]. 2000 Sep 1;52(9):1137–42. Available from: <https://doi.org/10.1211/0022357001774903>
7. Dapaah G, Koffuor GA, Mante PK, Ben IO. Antitussive, expectorant and analgesic effects of the ethanol seed extract of *Picalima nitida* (Stapf) Th. & H. Durand. *Res Pharm Sci*. 2016;11(2):100–12.
8. De Blasio F, Virchow JC, Polverino M, Zanasi A, Behrakis PK, Kilinz G, et al. Cough management: a practical approach. *Cough*. 2011 Oct;7(1):7.
9. Hanson GR. *Drug and Society*. 10th ed. Geraci JA, editor. Massachusetts: Jones and Bartlett Publishers; 2009.
10. A CASE OF ACYCLOVIR-INDUCED RESPIRATORY DEPRESSION IN PATIENT WITH END-STAGE RENAL DISEASE. Vol. 19 Suppl 1, *Journal of general internal medicine*. 2004. p. 23–260.
11. President of the Republic of Indonesia. THE STATE POLICE OF THE REPUBLIC OF INDONESIA. Indonesia; 2022.
12. Terry H, Nigel D. Defining and Describing What We Do: Doctrinal Legal Research. *Leg Res Methods*. 2008;2(1988):203–4.
13. Kostı N, Levi-Faur D, Mor G. Legislation and regulation: three analytical distinctions. *Theory Pract Legis* [Internet]. 2019 Sep 2;7(3):169–78. Available from: <https://doi.org/10.1080/20508840.2019.1736369>
14. Shaw MN. *International Law*. 9th ed. Cambridge: Cambridge University Press; 2021. 44 p.
15. Kikura-Hanajiri R, Kawamura M, Miyajima A, Sunouchi M, Goda Y. Chiral analyses of dextromethorphan/levomethorphan and their metabolites in rat and human samples using LC-MS/MS. *Anal Bioanal Chem* [Internet]. 2011;400(1):165–74. Available from: <https://doi.org/10.1007/s00216-011-4707-y>
16. MacLean KA, Johnson MW, Reissig CJ, Prisinzano TE, Griffiths RR. Dose-related effects of salvinorin A in humans: dissociative, hallucinogenic, and memory effects. *Psychopharmacology (Berl)*. 2013 Mar;226(2):381–92.
17. Tobias JD, Leder M. Procedural sedation: A review of sedative agents, monitoring, and management of complications. *Saudi J Anaesth*. 2011 Oct;5(4):395–410.
18. Bandelow B, Michaelis S, Wedekind D. Treatment of anxiety disorders. *Dialogues Clin Neurosci*. 2017 Jun;19(2):93–107.
19. Pyeon T, Chung S, Kim I, Lee S, Jeong S. The effect of triazolam premedication on anxiety, sedation, and amnesia in general anesthesia. *Korean J Anesthesiol*. 2017 Jun;70(3):292–8.
20. Munir S. *Generalized Anxiety Disorder*. Stat Pearls Publishing; 2021.
21. Miller DD. Atypical antipsychotics: sleep, sedation, and efficacy. *Prim Care Companion J Clin Psychiatry*. 2004;6(Suppl 2):3–7.
22. Marraffa JM. Dextromethorphan. In: Wexler PBT-E of T (Third E, editor. *Encyclopedia of Toxicology* [Internet]. 3rd ed. Oxford: Academic Press; 2014. p. 45–6. Available from: <https://www.sciencedirect.com/science/article/pii/B9780123864543007223>
23. Chung KF. Cough. In: Murray & Nadel's *Textbook of Respiratory Medicine*. 7th ed. Elsevier, Inc; 2021. p. 508–20.
24. Morice AH, McGarvey L, Pavord I. Recommendations for the management of cough in adults. *Thorax*. 2006 Sep;61 Suppl 1(Suppl 1):i1–24.
25. Agustiningsih H, Wahyuningsih SE. Decision of Linked with Narcotics Convicted in Act No. 35 Of 2009 in The District of Sumber Court. *J Daulat Huk*. 2018;1(3):597.
26. Hasin DS, O'Brien CP, Auriacombe M, Borges G, Bucholz K, Budney A, et al. DSM-5 criteria for substance use disorders: recommendations and rationale. *Am J Psychiatry*. 2013 Aug;170(8):834–51.
27. Chyka PA, Erdman AR, Manoguerra AS, Christianson G, Booze LL, Nelson LS, et al. Dextromethorphan poisoning: An evidence-based consensus guideline for out-of-hospital management. *Clin Toxicol* [Internet]. 2007 Jan 1;45(6):662–77. Available from: <https://doi.org/10.1080/15563650701606443>
28. Pinzyn MA, Ortiz S, Holguin H, Betancur JF, Arango DC, Laniado H, et al. Dexamethasone vs methylprednisolone high dose for Covid-19 pneumonia. *PLoS One*. 2021;16(5 May):1–13.
29. Romanelli F, Smith KM. Dextromethorphan abuse: Clinical effects and management. *J Am Pharm Assoc* [Internet]. 2009;49(2):e20–7. Available from: <http://dx.doi.org/10.1331/JAPhA.2009.08091>
30. Balminil. dextromethorphan (OTC) [Internet]. Medscape. [cited 2021 Jan 22]. Available from: <https://reference.medscape.com/drug/balminil-dm-benylin-dm-dextromethorphan-343401>
31. Martinak B, Bolis RA, Black JR, Fargason RE, Birur B. Dextromethorphan in Cough Syrup: The Poor Man's Psychosis. *Psychopharmacol Bull*. 2017

- Sep;47(4):59–63.
32. Ziaee V, Akbari Hamed E, Hoshmand A, Amini H, Kebriaeizadeh A, Saman K. Side effects of dextromethorphan abuse, a case series. *Addict Behav* [Internet]. 2005;30(8):1607–13. Available from: <https://www.sciencedirect.com/science/article/pii/S0306460305000377>
 33. Al-Gareeb A, Al-Kuraishy H, Ashor AW. Effect of a single dose of dextromethorphan on psychomotor performance and working memory capacity. *Indian J Psychol Med*. 2012;34(2):140–3.
 34. Romanelli F, Smith KM. Dextromethorphan abuse: clinical effects and management. *J Am Pharm Assoc* (2003). 2009;49(2):e20-5; quiz e26-7.
 35. Brigitha Roringpandey M, Wullur AC, Citraningtyas G. Profil Penyalahgunaan Obat Dekstrometorfan Pada Masyarakat Di Kecamatan Tombariri Timur Kabupaten Minahasa. *PHARMACON J Ilm Farm*. 2013;2(04):129–34.
 36. Minister of Health Decree. HARGA ECERAN TERTINGGI OBAT GENERIK. 2012.
 37. Ayubi SA. The fenomenal of adolescent deviant behavior students in school at Genteng City Distric Banyuwangi East Java. In: *IOP Conference Series: Earth and Environmental Science*. 2020.
 38. the State Police of the Republic of Indonesia. Indonesia; 2002.
 39. Dirdjosisworo S. Penanggulangan kejahatan: (crime prevention). [Internet]. Alumni; 1976. Available from: <https://books.google.co.id/books?id=ckxzAQAACAAJ>
 40. Suryaputra A. Advokasi Dalam Upaya Pencegahan Penyalahgunaan Narkoba Bagi Tokoh Masyarakat dan Tokoh Agama [Internet]. BNN RI. 2008 [cited 2020 Jan 22]. Available from: <https://bnn.go.id/advokasi-dalam-upaya-pencegahan-penyalahgunaan-narkoba-bagi-tokoh-masyarakat-dan-tokoh-agama/>
 41. President of the Republic of Indonesia. Health. 144 Indonesia; 2009.