



## Health Information: A Case Report of "Unknown" Hepatitis in Indonesia

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### Kata Kunci

Hepatitis tidak diketahui;  
Anak;  
Laporan kasus

### Abstrak

Hepatitis adalah penyakit yang menyerang hati dengan cara peradangan. Virus hepatitis adalah agen yang paling umum menyebabkan hepatitis. Secara global, hepatitis yang sering terjadi di dunia adalah hepatitis A-E. Baru-baru ini dilaporkan kasus baru hepatitis dengan etiologi yang belum diketahui. Pada 12 Mei 2022, dilaporkan oleh Pusat Pencegahan dan Pengendalian Penyakit Eropa, kasus hepatitis "tidak diketahui" yang dilaporkan pada anak di bawah 10 tahun di Inggris adalah 176 kasus. Negara lain di luar EU/EEA dan Inggris melaporkan bahwa pada 19 Mei 2022, laporan kasus hepatitis "tidak diketahui" pada anak mencapai 313 kasus, teridentifikasi dari 16 negara. Kementerian Kesehatan Republik Indonesia merilis pada 17 Mei 2022, total 14 kasus di Indonesia, dengan rincian kemungkinan kasus dan 13 klasifikasi tertunda. Hingga 19 Mei 2022, laporan kematian akibat kasus hepatitis "tidak diketahui" mencapai enam. Artikel ini bertujuan untuk menyebarkan informasi kesehatan mengenai laporan kasus hepatitis "tidak diketahui", gejala kasus, serta upaya pencegahan dan pengendalian di Indonesia agar tidak menjadi wabah. Untuk mencegah dan mengendalikan hepatitis "tidak diketahui" di Indonesia, Kementerian Kesehatan Republik Indonesia melakukan surveilans, dan upaya terapeutik

### Keywords

Hepatitis  
unknown;  
Children;  
Case report

### Abstract

Hepatitis is a disease that attacks the liver by inflammation. The Hepatitis virus is the most common agent causing hepatitis. Globally, hepatitis that often occurs in the world is hepatitis A-E. Recently, reported a new case of hepatitis with unknown aetiology. On 12 May 2022, reported by the European Center for Disease Prevention and Control, the reported cases of "unknown" hepatitis in children aged under 10 years in the UK were 176 cases. Other countries outside the EU/EEA and the United Kingdom reported that on May 19, 2022, reports of "unknown" hepatitis cases in children reached 313 cases, identified from 16 countries. The Ministry of Health of the Republic of Indonesia released on May 17, 2022, a total of 14 cases in Indonesia, with details of probable case and 13 pending classification. As of May 19, 2022, reports of deaths due to "unknown" hepatitis cases reached six. This article's objectives to disseminate health information regarding case reports of "unknown" hepatitis, case symptoms, and prevention and control efforts in Indonesia so that it does not become an outbreak. To prevent and control "unknown" hepatitis in Indonesia, the Ministry of Health of the Republic of Indonesia conducts surveillance and therapeutic efforts

## Introduction

Hepatitis is a disease that attacks the liver by inflammation.(1) The Hepatitis virus is the most common agent causing hepatitis. Globally, hepatitis that often occurs in the world is hepatitis A, B, C, D, and E.(1-5) Hepatitis is classified as an account disease but can become chronic in terms of the duration of inflammation or disorders of the liver.(6) If liver inflammation occurs for less than six months, it is called acute hepatitis, while liver inflammation occurs for more than six months, it is categorized as chronic

hepatitis.(7) Depending on the etiology, acute hepatitis may resolve on its own, whereas chronic hepatitis can cause liver damage such as liver fibrosis, cirrhosis, hepatocellular carcinoma, etc.(6) The cause of hepatitis is excessive alcohol consumption, autoimmune, or use of drugs or toxins with excessive intake.(8,9) Recently, reported a new case of hepatitis with unknown aetiology.(6)

On April 5, 2022, the United Kingdom (UK) first reported 10 cases of "unknown" hepatitis through the International Health Regulations (IHR) National Focal Point (NFP). The case was reported across central Scotland in a child aged 11 months-toddler. Furthermore, on April 8, 2022, there were 64 more reported cases of "unknown" hepatitis, bringing the total case reports to 74 cases. The addition of cases occurred as a result of an investigation across the United Kingdom, with predetermined case diagnosis criteria.(10) As of April 21, 2022, a total of 169 cases of "unknown" hepatitis were reported in eleven countries in the WHO European Region and one country in the WHO Region of the Americas.(11) In Indonesia, on 2 May 2022, it was reported that an "unknown" hepatitis case was reported for the death of three children at the *Rumah Sakit Umum Pusat Nasional (RSUPN) Dr. Cipto Mangunkusumo* Jakarta. This article's objectives to disseminate health information regarding case reports of "unknown" hepatitis, case symptoms, and prevention and control efforts in Indonesia so that it does not become an outbreak.(12)

## Methods

This research is descriptive with a case report study design approach. The type of data used is quantitative, with secondary data sources obtained from government websites in several countries and journals. Secondary data collection and retrieval will be carried out from April 8 to May 17, 2022. Reports of "unknown" hepatitis cases began to spread and increase on April 8, 2022. The Indonesian government is required to take steps for prevention and control efforts so that it does not become an outbreak.

## Results

Reports of the first "unknown" hepatitis cases began on 5 April 2022, with 10 cases reported in the UK through the International Health Regulations (IHR) National Focal Point (NFP) to WHO. On 8 April 2022, 64 cases were reported, bringing the total number of cases to 74 in the UK. Furthermore, on April 21, 2022, the total cases became 169 identified reports from 11 countries in the WHO European Region and one country in the WHO Region of the Americas. The distribution of countries and cases include the United Kingdom of Great Britain and Northern Ireland (the United Kingdom) (114 cases), Spain (13 cases), Israel (12 cases), the United States of America (nine cases), Denmark (six cases), Ireland (less than five cases), The Netherlands (four cases), Italy (four cases), Norway (two cases), France (two cases), Romania (one case), and Belgium (one case).(11) On 12 May 2022, reported by the European Center for Disease Prevention and Control (ECDC), the reported cases of "unknown" hepatitis in children aged under 10 years in the UK were 176 cases.(13) Other countries outside the EU/EEA and the United Kingdom reported that on May 19, 2022, reports of "unknown" hepatitis cases in children reached 313 cases, identified from 16 countries including Argentina (nine cases), Brazil (44 cases), Canada (11 cases), Costa Rica (two case), Indonesia (14 cases), Israel (12 cases), Japan (12 cases), Malaysia (one case), Mexico (21 cases), Moldova (one case), Palestine (one case), Panama (two cases), Serbia (one case), Singapore (one case), South Korea (one case) and the United States (180 cases). As of May 19, 2022, reports of deaths due to "unknown" hepatitis cases reached 14 with distributions, Ireland (one case), Indonesia (six cases), Mexico (one case), Palestine (one case), and the United States (five cases).(14) The full case report of "unknown" hepatitis is presented in table 1 below,

On 12 May 2022, reported by the European Center for Disease Prevention and Control (ECDC), the reported cases of "unknown" hepatitis in children aged under 10 years in the UK were 176 cases.(13) Other countries outside the EU/EEA and the United Kingdom reported that on May 19, 2022, reports of "unknown" hepatitis cases in children reached 313 cases. As of May 19, 2022, reports of deaths due to "unknown" hepatitis cases reached 14 with distributions, Ireland (one case), Indonesia (six cases), Mexico (one case), Palestine (one case), and the United States (five cases).(14)

The Ministry of Health of the Republic of Indonesia released on May 17, 2022, a total of 14 cases in Indonesia, with details of 1 probable case and 13 pending classification cases. The distribution of 13 pending classification cases by region is in North Sumatra (one case), West Sumatra (one case), DKI Jakarta (seven cases), Jambi (one case), and East Java (three cases).(14) Furthermore, the distribution of cases is based on age group, children under five years (seven cases), children aged 6-10 years (two cases), and children aged 11-16 years (five cases). Of the total 14 suspected "unknown" hepatitis cases, six cases died (four cases from DKI Jakarta; one case from Tulungagung Regency, East Java; one case from Solok, West Sumatra; and one case from East Kalimantan), four cases are still being treated, and four cases have recovered.(14,15)

Table 1. Case Reports of "Unknown" Hepatitis in Children Aged under 10 Years The UK and Other countries outside the EU/EEA during 12-19 May 2022

Countries	The count of cases reported
UK	176 cases
Argentina	Nine cases
Brazil	44 cases
Canada	11 cases
Costa Rica	Two cases
Indonesia	14 cases
Israel	12 cases
Japan	12 cases
Malaysia	one case
Mexico	21 cases
Moldova	One case
Palestine	One case
Serbia	One case
Panama	Two cases
Singapore	One case
South Korea	One case
US	180 cases

Source: (13)

## Discussion

The children of Alabama US reported 15 cases of acute hepatitis. A total of 6 (40%) children identified the cause of hepatitis. Meanwhile, in 9 (60%) children, the cause of hepatitis was not identified, 8 of them also tested positive for adenovirus (11). So far, there is suspicion between adenovirus infection and an "unknown" hepatitis causative agent (11).

In case reporting WHO classifies into three categories, confirmed: a person presenting with acute hepatitis (non-hepatitis viruses A, B, C, D, E) with aspartate transaminase (AST) or Alanine transaminase (ALT) over 500 U/L, who is 10 years old and under, since 1 January 2022. Both, are possible: a person presenting with acute hepatitis (non-hepatitis viruses A-E) with AST or ALT over 500 U/L, who is 11-16 years old, since 1 January 2022. Thirdly, epi-linked: a person presenting with acute hepatitis (non-hepatitis viruses A-E) of any age who is close contact with a confirmed case since 1 January 2022.(11) Meanwhile, the Ministry of Health of the Republic of Indonesia reported cases of "unknown" hepatitis into four categories to WHO.(15) First, a confirmation case that is not yet available at this time because the cause is unknown. Second, a probable case is a probable status for those exposed to acute hepatitis (non-hepatitis A-E virus) with AST or ALT more than 500 U/L, aged less than 16 years, found since October 1, 2021. Thirdly, epi-linked, namely someone with acute hepatitis (viral non-hepatitis A-E) of any age who is close contact with a confirmed case since October 1, 2021. Fourthly, pending classification, i.e., if hepatitis A-E serologic results are not available, but because the criteria are met. As well as discarded, which means cases with a clinical presentation that can be explained by other causes of disease.

Symptoms of "unknown" hepatitis are similar to those of adenovirus which is the suspected causative agent of "unknown" hepatitis.(11) Symptoms include gastroenteritis (inflammation of the stomach or intestines), conjunctivitis (pink eyes), and cystitis (bladder infection).(11) Meanwhile, case reports from Indonesia identified symptoms such as nausea, vomiting, severe diarrhea, fever, jaundice, seizures, and decreased consciousness.(14) Cases of death of "unknown" hepatitis in Indonesia occurred due to delays in patients coming to the referral hospital.(15) For prevention and control of "unknown" hepatitis so that it does not become an outbreak in Indonesia. So, the Ministry of Health of the Republic of Indonesia took several steps, first surveillance, by analyzing pathogens using Whole Genome Sequencing (WGS) wherewith this WGS it would be seen which virus variants emerged. Then report with New All Record (NAR). The second step is to carry out therapeutic efforts in compiling guidelines for the management of this hepatitis case together with the Indonesian pediatrician association and also the expert committee that has been formed by the Ministry of Health of the Republic of Indonesia. On May 13, 2022, a decision from the Director-General of Health Services has been issued regarding the management of acute hepatitis in children whose cause is unknown in health care facilities. The fourth step is, that the Ministry of Health has appointed a national laboratory at the Health Development Policy Agency to receive

all sample referrals for patients with suspected hepatitis.(14).

## Conclusion

The existence of "unknown" hepatitis in several countries has been reported. On 12 May 2022 EU/EEA countries reported 176 cases in children under 10 years of age. Then on May 19, 2022, 16 countries outside the EU/EEA reported as many as 313 cases of "unknown" hepatitis. Indonesia reported a total of 14 cases as of 17 May 2022 with six deaths. In an effort to prevent and control "unknown" hepatitis cases so that they do not become outbreaks, the Ministry of Health of the Republic of Indonesia has taken several steps. Among these steps are conducts surveillance, and therapeutic efforts, to make decisions on the management of "unknown" hepatitis in health facilities and appoints a reference laboratory for samples for patients suspected of having hepatitis.

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## References

1. World Health Organization. Hepatitis [Internet]. 2022 [dikutip 28 Mei 2022]. Tersedia pada: [https://www.who.int/health-topics/hepatitis#tab=tab\\_1](https://www.who.int/health-topics/hepatitis#tab=tab_1)
2. Koenig KL, Shastry S, Burns MJ. Hepatitis a virus: Essential knowledge and a novel identify-isolate-inform tool for frontline healthcare providers. *Western Journal of Emergency Medicine*. 2017;18(6):1000-7.
3. You CR, Lee SW, Jang JW, Yoon SK. Update on hepatitis B virus infection. *World Journal of Gastroenterology*. 2014;20(37):13293-305.
4. Li HC, Lo SY. Hepatitis C virus: Virology, diagnosis and treatment. *World Journal of Hepatology*. 2015;7(10):1377-89.
5. Rizzetto M. Hepatitis D virus: Introduction and epidemiology. *Cold Spring Harbor Perspectives in Medicine*. 2015;5(7):1-10.
6. Mehta P, Reddivari AKR. Hepatitis [Internet]. StatPearls. 2021. Tersedia pada: <https://www.ncbi.nlm.nih.gov/books/NBK554549/>
7. Pérez-Gracia MT, García M, Suay B, Mateos-Lindemann ML. Current knowledge on hepatitis E. *Journal of Clinical and Translational Hepatology*. 2015;3(2):117-26.
8. Basra S, Anand BS. Definition, epidemiology and magnitude of alcoholic hepatitis. *World Journal of Hepatology*. 2011;3(5):108-13.
9. Michielsen P, Francque, Vonghia, Ramon. Epidemiology and treatment of autoimmune hepatitis. *Hepatic Medicine: Evidence and Research*. 2012;1.
10. World Health Organization. Acute hepatitis of unknown aetiology - the United Kingdom of Great Britain and Northern Ireland [Internet]. 2022 [dikutip 28 Mei 2022]. Tersedia pada: <https://www.who.int/emergencies/disease-outbreak-news/item/acute-hepatitis-of-unknown-aetiology---the-united-kingdom-of-great-britain-and-northern-ireland>
11. World Health Organization. Multi-Country - Acute, severe hepatitis of unknown origin in children [Internet]. 2022 [dikutip 28 Mei 2022]. Tersedia pada: <https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON376>
12. Berita Satu. 3 Anak dengan Hepatitis Akut Meninggal, Ini Saran Pakar [Internet]. 2022 [dikutip 28 Mei 2022]. Tersedia pada: <https://www.beritasatu.com/news/923305/3-anak-dengan-hepatitis-akut-meninggal-ini-saran-pakar>
13. European Centre for Disease Prevention and Control. Epidemiological update issued 19 May 2022: hepatitis of unknown aetiology in children [Internet]. 2022 [dikutip 28 Mei 2022]. Tersedia pada: <https://www.ecdc.europa.eu/en/news-events/epidemiological-update-issued-19-may-2022-hepatitis-unknown-aetiology-children#:~:text=Worldwide update,as of 6 May 2022>
14. Kementerian Kesehatan Republik Indonesia. Dugaan Hepatitis Akut jadi 14 Kasus [Internet]. 2022 [dikutip 28 Mei 2022]. Tersedia pada: <https://www.kemkes.go.id/article/view/22051900003/dugaan-hepatitis-akut-jadi-14-kasus.html>
15. Kementerian Kesehatan Republik Indonesia. 6 Orang Meninggal Diduga karena Hepatitis Akut Misterius [Internet]. 2022 [dikutip 28 Mei 2022]. Tersedia pada: <https://www.cnnindonesia.com/nasional/20220518134654-20-798057/kemenkes-6-orang-meninggal-diduga-karena-hepatitis-akut-misterius>