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Descriptive Study of Characteristics, Length of Stay, Clinical Examination, Supporting Examinations, and Diagnosis of Dengue Fever Patients in 7 Hospitals

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Abstract

Dengue fever is an endemic disease affecting infants, children, adolescents, adults, and the elderly. Patients often require hospitalization and can even cause death. The purpose of this study was to describe the characteristics, clinical data, supporting examinations, and diagnosis of dengue fever patients in 7 hospitals in Central Java. This study was descriptive in nature. The subjects were all medical records of dengue fever patients in the 7 hospitals. This study used a total population of 507 medical record documents. The results of the study showed that the majority of patients were aged 1-10 years, as many as 244 (48.1%), most of them were female, as many as 257 (50.7%), and the longest length of treatment was 1-4 days, as many as 267 (52.7%). The results of physical examination of DHF patients are as follows: blood pressure is mostly normal, namely 127 (25.5%), body temperature between 38 0C- 39 0C, 263 (51.9%), pulse rate is mostly 91 - 130 times / minute, 253 (49.9%), respiratory rate is mostly 11-20 times / minute, 175 (34.5) mostly 20 times / minute, 115 (22.7%), the results of supporting examinations of DHF patients show hematocrit 20-59, mostly 30 - 39, 284 (56.1%)), platelet examination results 2000-408,000, mostly 430 (84.8%) <150,000, the most common diagnosis is DHF (Dengue Hemorrhagic Fever) with code A91, 430 (84.8%), as many as 177 (34.9%) had comorbidities.

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Introduction

Dengue hemorrhagic fever, also known as DHF, is a disease caused by the dengue virus. This disease is common in countries with hot climates and regions with four seasons. Indonesia is also one of the countries with a high prevalence of dengue fever. This disease was first discovered in Indonesia in 1968 in Surabaya and has spread to several areas throughout the country. (1)

Dengue hemorrhagic fever is a disease transmitted through the bite of the rapidly reproducing Aedes aegypti mosquito. Only female Aedes aegypti mosquitoes can transmit the dengue virus to humans. Although only female mosquitoes reproduce, these mosquitoes reproduce very rapidly. Due to the ease with which dengue fever spreads, dengue fever has become a public health problem in Indonesia. (2)

People with dengue fever will experience several symptoms, including high fever lasting 2 to 7 days, nausea, weakness and drowsiness, red spots on the skin, and circulatory failure. Although this disease is frightening, dengue fever is not transmitted through direct contact with an infected person, as it is only transmitted through the bite of the Aedes aegypti mosquito, which carries the dengue virus. (3)

As of May 2025, the Ministry of Health recorded more than 79,843 cases of dengue fever, with 359 deaths. The provinces with the highest death rates were West Java, East Java, and Central Java.

From early 2025 to the end of June, Central Java recorded 6,226 cases of dengue fever (DHF), with 54 deaths. The highest number of DHF cases occurred in Tegal Regency (2,449), Pati Regency (2,216), Jepara Regency (1,936), and Demak Regency (1,900).

According to data from the Semarang City Health Office, there were 112 DHF cases from January to June 2025, with 80 cases in men and 32 in women.

Methods

The purpose of this study was to describe the characteristics, length of stay, clinical data, supporting examinations, diagnoses, and disease codes of Dengue Hemorrhagic Fever patients in seven hospitals.

This is a descriptive, observational study, using observation guidelines for 507 medical records from seven hospitals in Semarang and surrounding districts. The collected data will be compiled, selected, and processed for descriptive presentation in the form of frequency distributions, averages, minimums, and maximums.

Results

1. Characteristics of Dengue Hemorrhagic Fever Patients

Table 1. Characteristics of Dengue Hemorrhagic Fever Patients

Gender	N	%
Man	250	49,3
Women	257	50,7
Total	507	100
Age		
1-10	244	48,1
11-20	165	31,5
21-30	51	10,1
31-40	26	5,1
41-50	12	2,4
51-60	6	1,2
61-70	1	0,2
71-80	1	0,2
81-90	1	0,2
Total	507	100
LOS (Legth of stay)		52,7
1-4	267	46,6
5-9	236	0,6
10-14	3	0,6
20-24	1	0,01
Total	507	100

Data Source: Secondary

Most of the DHF patients were women 257 (50.7%), most of the DHF sufferers were aged 1-10 years, there were 244 (48.1%), most of the DHF patients were treated in hospital for 1-4 days, there were 267 (52.7%).

2. Dengue Fever Patient Clinical Data

Table 2. Dengue Fever Patient Clinical Data

	N	(%)
Blood pressure		
Hypotension	89	17,6
Normal	127	25,5
Hypertension	25	4,9
No Data Available	266	52
Total	507	100
Respiratory Rate (RR) times/minute		
11-20	175	34,5
21-30	115	22,7
31-40	3	0,6
41-50	1	0,2
>51	1	0,2
No Data Available	212	41,8
Total	507	100
Temperature (^{0}C)		
35-36	140	27,6
37-38	263	51,9
39-40	99	19,5

	N	(%)
41-42	5	1
Total	507	100
Pulse (Time/minute)		
50-70	7	1,4
71-90	90	17,6
91-110	126	24,9
111-130	127	25,0
131-150	54	10,7
151-170	16	3,2
171-190	1	0,2
191-210	1	0,2
No Data Available	85	16,8
Total	507	100

Data Source: Secondary

Most of the DHF sufferers have normal blood pressure, there are 127 (25.5%), most of the RR of DHF sufferers is 11 – 20 X/Minute there are 175 (34.5), most of the DHF sufferers have a temperature of 37 – 38 0C there are 263 (51.9%), most of the sufferers' pulse is 91 – 110 there are (24.9)

3. Supporting Examinations

Table 3. Supporting Examinations

Platelets	N	(%)
2000 - 49.000	90	17,7
50.000 - 99.000	176	34,7
100.000 -149.000	164	32,3
150.000 -199.000	36	7,1
200.000-249.000	16	3,3
250.000 -299.000	20	3,9
300.000 – 349.000	1	0,2
350.000 – 399.000	2	0,4
400.000 – 449.000	2	0,4
Total	507	100
Hematocri	N	(%)
20 -29	8	1,6
30-39	284	56,1
40-49	191	37,6
50-59	24	4,7
	507	100

Data Source: Secondary

Most of the platelet examination results of DHF patients were 2000 – 149,000, there were 430 (84.8%), most of the DHF patients had hematocrit results of 30 – 39, there were 284 (56.1%)

4. Diagnosis

Table 4. Diagnosis of Dengue Fever Patients

Primary Diagnosis	N	(%)
Dengue Hemoragic fever	430	84,8
Dengue Fever	77	15,2
Total	507	100
Secondary Diagnosis		
None	330	65,1
Existing	177	34,9
	507	100

Data Source: Secondary

Most of the DHF sufferers have Dengue Hemorrhagic Fever 430 (84.8%), most of the DHF sufferers do not have a secondary diagnosis 330 (65.1%).

5. Mean, minimum, maximum

Tabel 5. Mean, minimum, maximum values

	Minimum	Maximum	Mean
Age	1	87	13,76
LOS (length of Stay)	1	20	4,61
Respiratory Rate	18	91	30,13
Temperature (^{0}C)	35	41	37,74
Pulse	50	200	91,92
Platelets.	2000	408.000	115.651
Hematocri	24,3	59,1	39,72

Data Source: Secondary

Based on table 5. The average age was 13.76 years, the average length of stay (LOS) was 4.61, the average RR was 30.13, the average temperature was 37.74, the average pulse was 91.92, the average platelet count was 115.6 and the average hematocrit was 39.72.

Discussion

Patient Characteristics

a. Gender

This study found that the majority of dengue fever patients were women (257 cases, 50.7%). This differs from a 2010 study by Rosa Dwi Wahyuni and M. Sabir, which found that men, at 54.01%, were the most affected by dengue fever. (4)

These results also differ from the findings of research by Tule and Nur Rahmasari S (2020), which found that men outnumber women in dengue fever. Men are more susceptible to dengue virus infection because they are less efficient than women in producing immunoglobulins and antibodies, which function as the body's defense system against infection. (5)

Men are more likely to suffer from dengue fever than women. This is influenced by the fact that men are generally more susceptible to dengue fever than women because women are more likely to produce immunoglobulins and antibodies, which are genetically and hormonally controlled, and men are more active outside the home. (5) According to Hermawan, the reason why males are more susceptible to dengue virus infection is because males are less efficient in producing immunoglobulins and antibodies, which are the body's defense system against infection, compared to females. (6)

b. Age of Dengue Fever Sufferers

Research results show that the majority of dengue fever sufferers are aged 1-10 years, with a total of 244 people (48.1%).

A similar sentiment was also conveyed by authors Widya Sari T and Retno Putri, who found that the most sufferers were aged 0-10 years, at 17 people, representing 42.5%. (16) According to Tika Fransiska Dewi, Joko Wiyono, and Zaky Soewandi Ahmad, school children aged 0-10 are susceptible to dengue fever because their immune systems are not as strong as those of adults, they frequently spend time outside the home, they have poor habits of maintaining environmental hygiene and health, especially regarding dengue fever prevention, and their parents' lack of knowledge about how to prevent dengue fever in children. The better parents' knowledge about dengue fever, the better their behavior in preventing dengue fever in children. (7)

This is due to the influence of human immunity, which can be seen from the age and nutritional status of the sufferer. Children are still highly susceptible to disease because their immune systems are not yet fully developed, unlike adolescents and adults whose immunity is beginning to develop (5).

This contrasts with research conducted by Ayu Islammia, Diah Putri Rumana, et al. at UKI Regional Hospital (2020), which concluded that 30 adolescent patients (32%) were most likely to contract dengue fever. This is because, compared to other age groups, people aged around 15 are more likely to engage in activities that weaken the immune system and expose them to dengue fever. (8).

c. Length of Stay (LOS)

This study found that most dengue fever patients were hospitalized for 1-4 days, a total of 267 patients (52.7%). These results are similar to research conducted by Faizah Nur Khakimatul at South Tangerang City Hospital, where the most frequently reported length of stay was 1-3 days, a total of 48 patients (52.7%). (19) 26. This was also conveyed by authors Indah Agustini I., Elli Yane Bangkele, Mohammad Salman, and Moh. Ardi Munir, with the longest length of stay being <7 days, a total of 42 patients (85%). The length of stay impacted the performance of hospital care, which was less than ideal. According to the Ministry of Health, the ideal standard is 6-9 days. However, patients were also discharged because they no longer showed symptoms, their fever had subsided, their platelet count and hematocrit laboratory results were normal, and their examination results during treatment had also shown good results. (9)

This finding differs from a 2014 study conducted by Ni Putu Anindya Divy, I Made Sudarmaja, and I Kadek Swastika, which found that most patients received treatment for more than 5 days, amounting to 58.3% (7).

d. 3. Clinical Data of Dengue Fever Patients

1. Blood Pressure (BP)

This study found that the majority of dengue fever patients had normal blood pressure (127, 25.5%).

This is similar to research conducted at Ulin Banjarmasin Regional Hospital by Akhmad, Affan Naufal Hartoyo, and Edi FX Hendriyono. The lowest systolic blood pressure among study participants was 90 mmHg, while the highest was 130 mmHg. (10).

Blood pressure is the pressure exerted by blood on blood vessels. Blood pressure is influenced by blood volume and blood vessel elasticity. Increased blood pressure is caused by an increase in blood volume or a decrease in blood vessel elasticity. The blood pressure results for most of the patients treated were those with normal blood pressure. (11)

2. Respiratory Rate (RR)

This study found that the RR of most dengue fever patients was 11-20 breaths per minute (175 cases, 34.5%). These results differ from research conducted by researchers Made Naradhyana I., Unang Sunarya, ST.MT, and Sugondo Hadiyoso, ST.MT, who stated that 16-25 breaths per minute is a normal rate. (12)

e. Temperature

This study found that the temperature of most dengue fever patients was 37-38°C (263 cases, 51.9%). These results differ from research conducted at Prabumulih Regional Hospital in 2016, which found the highest temperature on day 1 was 39.8°C, and on day 8 the normal temperature was 36.5°C (20). This sudden high fever usually lasts for 2 to 7 days and is often accompanied by facial flushing, skin redness, and body aches. The viremic phase, with the highest temperature, typically occurs within the first three to four days after the fever appears, but then declines rapidly over the next few days. The critical phase typically involves a drop in body temperature to or below 37.5°C - 38°C and remaining below this level (this drastic temperature drop is also called the temperature-declining period) and typically occurs during days 3 to 7 of illness. (13)

The authors, May Syara A., Syatriawati, Pitriani, Grace Erlyn, and Sitohang, also reported that the majority of body temperatures were between 38°C and 37.5°C, representing 87.5% of cases. (14)

f. Pulse Rate

The study found that the majority of patients' pulse rates were 91-110 (24.9%). This differs from other studies, which showed the highest pulse rate was 120-129, with 21 patients, representing 24.13%. (4)

Research results also differ, as reported by authors Melyana and Afrias Sarotama, who stated that a normal pulse rate is 60-100 beats per minute. (25) Devika, when checking the pulse, stated that if it is below the normal range, the patient is experiencing bradycardia, and if it is above the normal range, the patient is experiencing tachycardia. The pulse can be felt at the wrist; if it is not palpable, the pulse is weak, which can indicate Dengue Shock Syndrome. (15)

According to Hidayat, an increase in hematocrit values occurs due to a decrease in blood plasma levels due to vascular leakage. Hematocrit values will decrease during hemodilution, due to a decrease in blood cell levels or an increase in plasma levels, such as anemia. (16)

Supporting Examinations

a. Platelet Examination

Most platelet counts in dengue fever patients are 2,000–149,000 (430, 84.8%). This is consistent with the findings of a study conducted by Acivrida Mega Charisma at Anwar Medica General Hospital, which found that 181 people (99%) had thrombocytopenia (≤150,000)

This was also the case in a study conducted at Dr. M. Djamil General Hospital, where platelet laboratory results were found to be largely below normal, with a percentage reaching 100% (17).

b. Hematocrit

The study found that the majority of dengue fever patients had a hematocrit of 30–39 (normal), with 284 (56.1%) having this level. This is consistent with research conducted by Wardhy Arief Hidayat, Rismawati Yaswir, and Arina Widya Murni at Dr. M. Djamil General Hospital, Padang, which found that the majority of dengue fever patients (54.4%) had normal hematocrit levels (18)

Diagnosis

a. Primary Diagnosis

Research results showed that the majority of DHF patients (430 patients) had Dengue Hemorrhagic Fever (DHF). The primary diagnosis is the final diagnosis chosen by the doctor on the last

day of treatment, based on the criteria of using the most resources or the longest number of days of treatment. (19)

Most Indonesians are more familiar with the term DHF to describe the condition caused by dengue virus infection. Dengue fever is an acute viral infection caused by the dengue virus, characterized by fever lasting 2-7 days, bleeding, low platelet count (thrombocytopenia), hemoconcentration, and substantial plasma leakage (increased hypoalbuminemia). (19)

The primary diagnosis of DHF is also determined by hematocrit and platelet counts. Management of dengue fever involves laboratory tests to determine a decrease in leukocyte and platelet counts during the initial examination. (20)

b. Secondary Diagnosis

Most DHF Patients 330 (65.1%) patients did not have a secondary diagnosis. The results of research conducted by Ulfah, Nurmainah, and Eka found that 7 (30.43%) patients had no comorbidities or secondary diagnoses.

A secondary diagnosis is a diagnosis that accompanies the primary diagnosis at the time of patient admission or that occurs during the episode of care (13).

Conclusion

The majority of dengue fever patients were female (257 people, 50.7%). Most of the dengue fever patients were aged 1-10 years (244 people, 48.1%), and most of the dengue fever patients were hospitalized for 1-4 days (267 people, 52.7%). Most of the dengue fever patients had normal blood pressure (127 ml/min) (25.5%), most of the dengue fever patients' respiratory rate (RR) was 11-20 beats per minute (175 ml/min) (34.5%), most of the dengue fever patients had a temperature of 37-38°C (263 ml/min) (51.9%), and most of the dengue fever patients' pulse rate was 91-110°C (24.9%).

The platelet counts of most of the dengue fever patients were 2,000-149,000 (430 ml/min) (84.8%), and most of the dengue fever patients had a hematocrit of 30-39 (284 ml/min).

The majority of dengue fever patients (430 cases, 84.8%) had dengue hemorrhagic fever. The majority of dengue fever patients (330 cases, 65.1%) had no secondary diagnosis. Dengue fever prevention is essential, especially for children aged 1-10 years, and treatment is essential for patients with platelet counts below 150,000 and secondary diagnoses.

References

1. Nisa WD, Notoatmojo H, Rohmani A, Characteristics of Dengue Hemorrhagic Fever in Children at Roemani Hospital, Semarang, Vol. 1, Muhammadiyah Medical Journal, 2013.
2. Astuti M, Rizky KY, Fatma UR, Mukajir A, Putri BAF, Noviani A, et al., Strengthening Interventions to Prevent Dengue Hemorrhagic Fever in the Community of RW 006, Cireundeu Village, East Ciputat District, South Tangerang City, 2022, Indonesian Physiotherapy and Health Community Service Journal, June 2022, 1, 31-2
3. Putri Ayu Islamia D, Aula Rumana N, Indrawati L, Rosmala Dewi, Medical and Health Information R, Health Sciences F, Characteristics of Inpatient Dengue Hemorrhagic Fever Patients at UKI General Hospital in 2022 2020 (Internet) vol 1, 2022, available at https:journal.literasisains.id/index.php/SEHATMAS
4. Dwi R, Dan W, Sabir M. Characteristics of Dengue Hemorrhagic Fever (DHF) Patients at Wahidin Sudirohusodo Hospital, Makassar, January-December 2010. Inspiration. 2011.
5. Candra A. Dengue Hemorrhagic Fever: Epidemiology, Pathogenesis, and Its Transmission Risk Factors.
6. Pajriyah, Sulaeman. Nusantara Hasana Journal. Nusant Hasana J [Internet]. 2021;1(11): 22–32. Available http://nusantarahasanajournal.com/index.php/nhj/article/view/279
7. Divy N, I. Sudarmaja, I. Swastika. CHARACTERISTICS OF DENGUE HEMORRHAGIC FEVER (DHF) PATIENTS AT SANGLAH HOSPITAL JULY–DECEMBER 2014. e-Jurnal Medika. 2018;7:2–6.
8. Putra Alman. Characteristics of Dengue Hemorrhagic Fever (DHF) Patients in Ambarawa, District, Semarang Regency. 2021;
9. Faizah Nk. Characteristics of Dengue Hemorrhagic Fever Patients Hospitalized at South Tangerang City Hospital in 2014–2015. 2016. 62 P.
10. Djamil M, Wardhy P, Hidayat A, Yaswir R, Murni AW. Relationship between Platelet Count and Hematocrit Value in Patients with Dengue Hemorrhagic Fever and Manifestations. Andalas Health Journal [Internet]. 2017;6(2):448–50. Available at: http://jurnal.fk.unand.ac.id
11. Sarotama A, Melyana. Implementation of Vital Sign Abnormality Warnings on Telemedicine Workstations. J Nas Sains dan Teknol. 2019;21(1):1–9.
12. Syara AM, Syatriawati S, Pitriani P, Sitohang GE. The Effect of Warm Compresses on Body Temperature in Children with Dengue Hemorrhagic Fever (DHF) at Deli Serdang Regional General Hospital, Lubuk Pakam. Elisabeth Heal J. 2021;6(1):20–4.

13. REGULATION OF THE MINISTER OF HEALTH OF THE REPUBLIC OF INDONESIA NUMBER 27 OF 2014
14. (Andriani A, Hartono R. Oxygen Saturation Using Pulse Oxymetry Within 24 Hours in Adult Patients Installed on Ventilators in the ICU of Panti Wilasa Citarum Hospital, Semarang [Internet]. Vol. 2, Oxygen Saturation Using Pulse Oximetry Within 24 Hours in Adult Patients Installed on Ventilators in the ICU of Panti Wilasa Citarum Hospital, Semarang. 2017. P. 258–63. Available From: Https://Media.Neliti.Com/Media/Publications/243373 57Saturasi-Oksigen- Pulse-Oximetry-D-D46bdd55.Pdf
15. Muis A, Zulaikha F. The Relationship Between Vital Signs and Hematocrit Values as Risk Factors DHF in Pediatric Patients at the Mangkurawang Community Health Center, Tenggarong, Kutai Kartanegara. J-Borneo Student Res. 2021;2(3):1654–62. 20
16. Yuhada S, Marhayuni E, Anggraeni R. The Relationship Between Hematocrit and Platelet Counts in Dengue Fever Patients at Dr. H. Abdul Moeloek Regional Hospital, Lampung Province. MAHESA Malahayati Heal Student J. 2022;2(2):320–31. 22
17. Djamil M, Wardhy P, Hidayat A, Yaswir R, Murni AW. The Relationship Between Platelet Count and Hematocrit in Patients with Dengue Fever with Manifestations. Andalas Health Journal [Internet]. 2017;6(2):448–50. Available at: http://jurnal.fk.unand.ac.id
18. Tarigan Ai, Alexander R, Natali O. Characteristics of Dengue Hemorrhagic Fever in Children at Royal Prima General Hospital, Medan. J Kesmas Prima Indonesia 2022;3(1):42–6.
19. REGULATION OF THE MINISTER OF HEALTH OF THE REPUBLIC OF INDONESIA NUMBER 27 OF 2014
20. Najmi A, Purnamasari E, Arifandi F, Kunci K. Overview of Platelet and Leukocyte Counts at Initial Hospital Admission in Dengue Fever Patients at Wates Regional Hospital from\April 2020 to April 2021 and a Review from an Islamic Perspective. Summary of the Number of Thrombocytes and Leucocytes at Initial Hospital Admission. 2022;1(4):414–22. 23

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Reference examples from Journal:

Brach, C. (2017). *The journey to become a health literate organization. A snapshot of health system improvement*, Studies in Health Technology and Informatics, 240, 203-37. DOI 10.3233/978-1-61499-790-0-203

Bröder, J., Okan, O., Bauer, U., Bruland, D., Schlupp, S., Bollweg, T.M., et al (2017) Health literacy in childhood and youth. A systematic review of definitions and models, BMC Public Health, 17, 1, 361. https://doi.org/10.1186/s12889-017-4267-y

De la Hoz, A., Cubero, J., Melo, L., Durán-Vinagre, M. A., & Sánchez, S. (2021). Analysis of digital literacy in health through active university teaching. *International Journal of Environmental Research and Public Health*, *18*(12), 6674. https://doi.org/10.3390/ijerph18126674

Nutbeam, D., Levin-Zamir, D., & Rowlands, G. (2018). *Health literacy and health promotion in context. Global Health Promotion*, 25(4), 3-5. https://doi.org/10.3390/ijerph15122657

Okan, O., Bauer, U., Levin-Zamir, D., Pinheiro, P., & Sørensen, K. (2019). *International Handbook of Health Literacy: Research, practice and policy across the lifespan*. Policy Press. http://library.oapen.org/handle/20.500.12657/24879

Radovanović, D., Holst, C., Belur, S. B., Srivastava, R., Houngbonon, G. V., Le Quentrec, E., ... & Noll, J. (2020). Digital literacy key performance indicators for sustainable development. *Social Inclusion*, *8*(2), 151-167. https://doi.org/10.17645/si.v8i2.2587

Ramírez, A. S., Ramondt, S., Van Bogart, K., & Perez-Zuniga, R. (2019). Public awareness of air pollution and health threats: challenges and opportunities for communication strategies to improve environmental health literacy. Journal of Health Communication, 24(1), 75-83. https://doi.org/10.1080/10810730.2019.1574320

Vahedi, Z., Sibalis, A., & Sutherland, J. E. (2018). Are media literacy interventions effective at changing attitudes and intentions towards risky health behaviors in adolescents? A meta-analytic review. Journal of adolescence, 67, 140-152. https://doi.org/10.1016/j.adolescence.2018.06.007

Van den Broucke, S. (2020). *Why health promotion matters to the COVID-19 pandemic, and vice versa*. Health promotion international, 35(2), 181-186. https://doi.org/10.1093/heapro/daaa042

Reference examples from Conference/Proceeding:

Duckworth, A. L., Quirk, A., Gallop, R., Hoyle, R. H., Kelly, D. R., & Matthews, M. D. (2019). Cognitive and noncognitive predictors of success. *Proceedings of the National Academy of Sciences*, *USA*, *116*(47), 23499–23504. https://doi.org/10.1073/pnas.1910510116

Evans, A. C., Jr.,Garbarino, J., Bocanegra, E., Kinscherff, R.T., & Márquez-Greene, N. (2019, August 8-11). *Gun violence: An event on the power of community* [Conference presentation]. APA 2019 Convention, Chicago, IL, United States. https://convention.apa.org/2019-video

Reference examples from books/e-book:

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Reference example from chapter in edited book:

Dillard, J.P. (2020). Currents in the study of persuasion. In M.B., Oliver, A. A. Raney, & J. Bryant (Eds), Media effect: Advances in theory and reserch (4th ed., pp 115-129) Routledge

Reference examples from reports:

National Cancer Institute. (2019). *Taking time: Support for people with cancer* (NIH Publication No. 18-2059). U.S. Department of Health and Human Services, National Institutes of Health. https://www.cancer.gov/publications/patient-education/takingtime.pdf