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Dengue Co-infection and COVID-19 in Brazil, 2020: Literature Review

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Abstract: The pandemic scenario, accompanied since the end of 2019, consisting of COVID-19 affects countries on all continents. Upon reaching South America, it expressed concerns to researchers about the simultaneous circulation of existing dengue serotypes. This is a national and international literature survey involving dengue co-infection and covid-19 in Brazil. The reference period was from April 2020 to March 2021. The descriptors used were: "Coinfection" AND "simultaneous infection" AND "Sars Cov II" AND "Arbovirus". The survey took place in the PERIODIC CAPES and Google Scholar databases in both databases. It was found that the possibility of co-infection between Dengue and COVID-19 exists, mainly in endemic areas, which may lead to a delay in the diagnosis of COVID-19 infection, producing greater dissemination of the virus and progression to death.

Keywords: Arbovirus. Co-infection. Cov Sars II.

1. Introduction

The pandemic scenario, accompanied since the end of 2019, consisting of COVID-19, affects countries on all continents. Upon reaching South America, it expressed concerns to researchers about the simultaneous circulation of

existing dengue serotypes (MUHAMMAD ALI,2020).

Regarding the classification of COVID-19, it is described in the literature as an emerging disease caused by the new coronavirus, offering impacts on society, especially in health systems, due to the rapid and contagious infectious cycle (MIRZA RYAN, 2020).



2 Barbosa, P.M.S.; Lima, A.F.P.S.; Silva, E.T.B.; Silva, E.B.; Lima, J.B.A.S.; Ferreira, J.V.T.; Damasceno, R.M.P.; Baroni, B.M.L.N.; Nascimento, M.M.S.T.; Neto, F.M.A.; Silva, M.M.Q.; Álvares, E.B.S.O. Dengue Co-infection and COVID-19 in Brazil, 2020: Literature Review...

In addition to presenting itself as a disease of easy dissemination, the impacts of this virus have devastating consequences in tropical and subtropical regions. Records show a total of 504,000 deaths nationwide and 4.91 million deaths worldwide today, on May 25, 2021 (MARCOS, 2020).

Brazil has been facing dengue epidemics over the last 35 years. Failures monitored during the development of vector control and combat actions are pointed out as the main responsible for the increase in dengue case records in the territory (NAIRA, 2020).

To this end, we seek to bring to the discussion space some aspects that challenge the implementation and adoption of Public Policies that enable the control and combat of these two public health problems, seeking to understand and analyze these studies from works that can contribute to face the challenges that the entire community of professionals and employees of the single health system in the country faces.

The choice of the theme proposed a differentiated look at dengue co-infection and covid-19 in Brazil, because this area of activity is extremely important for concrete diagnoses, considering that this technology is also present in the follow-up of patients hospitalized by Covid-19. This literature review aimed to present co-infection of dengue and covid-19 in Brazil.

2. Methodology

This is a bibliographic review study, that is, a survey of theoretical reference from scientific publications, which is national ly and internationally involving dengue co-infection and covid-19 in Brazil.

The data collection occurred through the Coordination for the Improvement of Higher Education Personnel (CAPES) and Google Academic. The reference period was from April 2020 to March 2021.

The descriptors used were: "Coinfection" AND "simultaneous infection" AND "Sars Cov II" AND "Arbovirus". Inclusion criteria: works in English and Portuguese, published in the last five years, which deal with related topics involving dengue co-infection and covid-19 in Brazil. These, available for free online. Exclusion criteria include: works whose text is not available in full, duplicated, review, meta tonalysis, and also works that, after reading, were not related to the research objective.

Being selected 08 works being included, according to the eligibility criteria according to Figure 1.

In relation to the data appreciation, this study was conducted qualitatively, prioritizing the analysis of micro processes, understanding, interpreting and dialing these findings, inter-relating them through the established criteria.

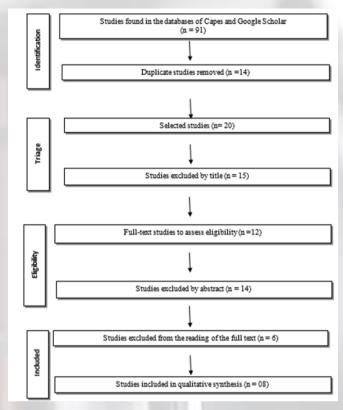


Figure 1. Flowchart of selection criteria and inclusion of studies.

3. Results and Discussion

Regarding the results found, a total of 91 works analyzed, however, only 08 works were included in the research, respecting the inclusion criteria.

Table 1. Demonstration of the works that make up the Integrative Review

No. Date Title Authors Periodic Goals Findings

No.	Date	Title	Authors	Periodic	Goals	Findings	
		COVID - 19	Misbahud	Journal of	То	It has	
	2020	and Co dengue	Din; Madiha	Medical	highlight	been	
		epidemic: a	Asghar;	Virology	the cases	noted	
		double problem	Muhammad		about the	that	
		for overloaded	Ali		disease of	about 100	
		health systems		in the second	the new	to 400	
		in developing		1.	coronavir	million	
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			- 107		(SARS-	per year	
			97		CoV-2)	are	
					and	reported	
		3.50			Dengue.	due to	
		100				dengue	
	012					worldwid	
						e with	
						25,000,00	
						0 deaths	
						annually.	
	2020	Coinfection,	Miah	Journal	Co-	It was	

ı		CO EPIDEMIC	Asaduzzama	Of	infection	found			López			median of
		COVID - 19,	n; Asmaul	Medical	and co-	that			Medina; Pio			75,250
		and dengue in	Husna	Virology	epidemic	Dengue			López; Juan			cases per
		dengue -			of	in			Carlos			year.
		endemic			COVID-	endemic			Navarro;			,
		countries: a			19 and	countries			Luis Perez			
		serious health			Dengue in	has a			Garcia;			
		problem			Endemic	history of			Euler	5.		
		proorem			Countries	occurren			Mogollon			
		111111			are	ce of			Rodriguez;			
					presented.	repeated			Alfonso J.			
					presented.	outbreak			Rodríguez			
						s of			Morales;			
						dengue,			Alberto			
		11.				that			Paniz			
						during			Mondolfi.	111		
		10.0				COVID-	2020	Covid-19 and		Journal	Call the	It was
		4.1					2020		Mirza Ryan;		double	
						19 the crisis of		dengue: double	Benedict Vohan:	Of Medical		found that
								blows to dengue	Yohan;	Medical	blows in	Dengue is
		-,34				the situation		endemic	Rufika Shari	Virology	endemic	an
								countries in	Abidin;		countries	important
						would be		Asia	Firzan		of	public
						very			Nainu;		Dengue	health
						difficult			Ahmed		and	problem
						to			Rakid; Israt		COVID-	in all
						manage if			Jahan; Talha		19 in	tropical
						the			Bin Emran;		Asia.	and
						dengue			Irfan Ullah;			subtropica
						epidemic			Panta kritu;			1 regions,
						worsened			Dhama			which
						in these			Kuldeep; R.			also
						countries.			Tedjo			causes
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	2020	COVID - 19,	Cardona	Of	analysis	observed						disease by
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		epidemics? An	Kovy	Virology	Dengue	last 5						four
		analysis of	Arteaga		and	years						serotypes
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ŀ			Mondragon			*						
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								Dengue and COVID-19:	Velasco; Christian	Facultad de	impact of coronavir	that there is the
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			Cardona; Marco	4		in Colombia,		COVID-19:	Christian	de	coronavir	is the
			Cardona; Marco Solarte	4	7	in Colombia, ranging		COVID-19: Need to	Christian Chiara	de Ciencias	coronavir us disease	is the possibility
			Cardona; Marco Solarte Portilla;	1	7	in Colombia, ranging from		COVID-19: Need to approach	Christian Chiara Chilet;	de Ciencias Médicas	coronavir us disease 2019	is the possibility of co-
			Cardona; Marco Solarte Portilla; Ernesto	1		in Colombia, ranging from 26,279		COVID-19: Need to approach	Christian Chiara Chilet; Rafael	de Ciencias Médicas de	coronavir us disease 2019 around	is the possibility of co-infection
			Cardona; Marco Solarte Portilla; Ernesto Martinez;	1	7	in Colombia, ranging from 26,279 (2017) to		COVID-19: Need to approach	Christian Chiara Chilet; Rafael Pichardo	de Ciencias Médicas de	us disease 2019 around the world,	is the possibility of co-infection between
			Cardona; Marco Solarte Portilla; Ernesto Martinez; Jose Millan	1		in Colombia, ranging from 26,279 (2017) to 127,553		COVID-19: Need to approach	Christian Chiara Chilet; Rafael Pichardo Rodriguesz;	de Ciencias Médicas de	coronavir us disease 2019 around the world, and also	is the possibility of co-infection between Dengue

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1 vector vectorcontrol is the main diseases control known. H strategy to reduce ere contact between the mosquito difference neonle. cases Malaysia, Singapore and Thailand, and the effects distancing treatment effect we adjust time factors

To this end, in the following sections we have the main points that the authors consulted discuss about dengue coinfection and covid-19 in Brazil.

In relation to dengue behavior in endemic countries, this pathology has a history of repeated outbreaks, this is one of the main determinants that directly imply the current crisis experienced with the arrival of the pandemic (ASADUZZAMAN *et.al.*, 2020). According to Mirza et. al., (2019) Dengue is an important public health problem in all tropical and subtropical regions, transmitted by mosquitoes mainly *Aedes aegypti*.

The possibility of co-infection between Dengue and COVID-19 exists, mainly in endemic areas, which may lead to a delay in the diagnosis of COVID-19 infection, producing greater spread of the virus and progression to death (MARCOS et. al., 2020).

5. Conclusion

It was found that the possibility of co-infection between Dengue and COVID-19 exists, mainly in endemic areas, which may lead to a delay in the diagnosis of COVID-19 infection, producing greater dissemination of the virus and progression to death.

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