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Molecular Virology and Immunology

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Sümbül HE, Şahiner F. Rapid Spreading of SARS-CoV-2 Infection and Risk Factors: Epidemiological, Immunological and Virological Aspects. J Mol Virol Immunol 2020; 1(2): 36-50.

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Kategori	Viroloji, Epidemiyoloji	Category	Virology, Epidemiology
Makale tipi	Derleme Yazı	Manuscript type	Review Article
Makale dili	İngilizce	Manuscript language	English
Özet ve makale başlığı	İngilizce ve Türkçe	Abstract and article title	English and Turkish
Bu makale çift-kör değerlendirmeden geçmiştir.		This article peer reviewed by double blind process.	
Makalenin gelişinden yayımlanma tarihine kadar toplam değerlendirme süresi	23 gün	Total evaluation time from the received of the article to the publication date (days)	23 days
Kabul edilen makalenin iThenticate benzerlik oranı (referanslar hariç)	%22	iThenticate similarity rate (excluding references)	22%
Kabul edilen makalenin ilk hakem değerlendirme puanlarının ortalaması (100 puan üzerinden)	76,8	Average of the reviewer first evaluation scores of the accepted article (out of 100 points)	76.8
Makale geliş tarihi	30.08.2020	Article received date	30.08.2020
Editör / Alan Editörü	Dr. Sadettin ER	Editor / Field Editor	Dr. Sadettin ER
İstatistik Editörü	-	Statistics Editor	-
Ön inceleme: Değerlendirmeye almak için temel kriterleri taşıyor mu?	Evet	Pre-review: Does it meet the basic criteria for taking the assessment?	Yes
iThenticate benzerlik oranı (ilk inceleme)	-	iThenticate similarity rate (first review)	-
Yazarların Ülkeleri / Bölgeleri	Türkiye	Author's Country / Territory	Turkey
Hakem atanması	2 hakem	Reviewer assignment	2 reviewers
Hakemlerin Ülkeleri / Bölgeleri	Türkiye	Reviewer's Country / Territory	Turkey
Hakem 1: İlk değerlendirme ve karar [makale puanı]	Minör revizyon [79,1]	Reviewer 1: First evaluation and decision [article score]	Minor revision [79.1]

Manuscript Number and Title

JMVI-2020-15: Features Affecting the Spreading of SARS-CoV-2 and Risk Factors: Epidemiological, Immunological and Virological Aspects.

Evaluate each of the criteria listed below with a score of 1 to 10.

1. English and Turkish Language titles reflect the content of the article	8
2. The level of reflection of the summary study content	8
3. Compatibility of English and Turkish Language abstracts	8
4. Sufficient and appropriate selection of keywords	8
5. Scientific originality of the article	7
6. Emphasizing the subject, aim and importance of the study in introduction	7
7. Appropriate materials and methods used in the study	8
8. Organization and presentation of the article	7
9. Competence of the study in terms of language and expression	7
10. Clarity, suitability and necessity of figures, pictures and tables	9
11. Adequacy, necessity and actuality of references	10
12. If the article is a review, does the article evoke the opinion that it is directly translated?	No <input type="checkbox"/> Yes <input type="checkbox"/>

Reviewer decision	Accept <input type="checkbox"/>	Major revision <input type="checkbox"/>
	Minor revision <input checked="" type="checkbox"/>	Rejection <input type="checkbox"/>

Explanations:

1. The figures should indicate not only animal reservoirs but also the possibility of reverse zoonotic transmission. Although this issue has not been fully clarified, some articles have data to support this possibility.
2. The subject of "laboratory infections and risks" was not mentioned.
3. Callaway E. The coronavirus is mutating - does it matter?. Nature. (<https://www.nature.com/articles/d41586-020-02544-6>) There is information about the importance of mutations in this reference.
4. In references that have not been added in accordance with the journal's writing rules and should be revised.

Hakem 2: İlk değerlendirme ve karar [makale puanı]

Kabul [74,5]

Reviewer 2: First evaluation and decision [article score]

Accept [74.5]

Manuscript Number and Title

JMVI-2020-15: Features Affecting the Spreading of SARS-CoV-2 and Risk Factors: Epidemiological, Immunological and Virological Aspects.

Evaluate each of the criteria listed below with a score of 1 to 10.

1. English and Turkish Language titles reflect the content of the article	6
2. The level of reflection of the summary study content	8
3. Compatibility of English and Turkish Language abstracts	8
4. Sufficient and appropriate selection of keywords	9
5. Scientific originality of the article	7
6. Emphasizing the subject, aim and importance of the study in introduction	7
7. Appropriate materials and methods used in the study	7
8. Organization and presentation of the article	6
9. Competence of the study in terms of language and expression	7
10. Clarity, suitability and necessity of figures, pictures and tables	9
11. Adequacy, necessity and actuality of references	8
12. If the article is a review, does the article evoke the opinion that it is directly translated?	No <input checked="" type="checkbox"/> Yes <input type="checkbox"/>

Reviewer decision	Accept <input checked="" type="checkbox"/>	Major revision <input type="checkbox"/>
	Minor revision <input type="checkbox"/>	Rejection <input type="checkbox"/>

Explanations:

Dear Editor

This review article focuses on the current issue, factors affecting the spread of the COVID-19 pandemic. Since these data are constantly updated and renewed rapidly, I express my opinion that it would be beneficial to publish the article early, after the following corrections.

1. Title of Article "Features Affecting the Spreading of SARS-CoV-2 and Risk Factors: Epidemiological, Immunological and Virological Aspects" can be rearranged. The fast-spreading feature of the virus can be highlighted in the title.
2. It can be updated before publication, as the number of cases around the world is changing rapidly.
3. Information on basic protective measures can be added to the figure.

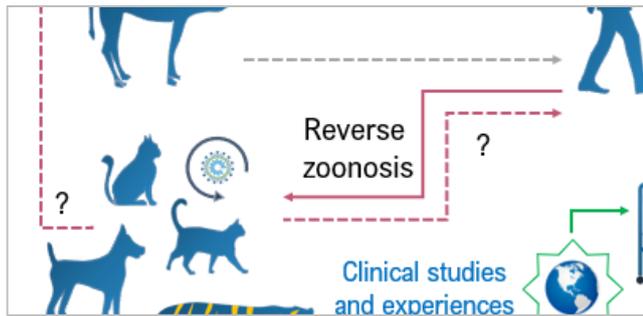
Hakemlere yanıt ve revizyonlar

Answering reviewers and revisions

Reviewer 1

1. The figures should indicate not only animal reservoirs but also the possibility of reverse zoonotic transmission. Although this issue has not been fully clarified, some articles have data to support this possibility.

Figures have been revised according to the recommendations of the reviewer.



2. The subject of "laboratory infections and risks" was not mentioned.

A new subtitle was added: " Laboratory-acquired infections and risks"

3. Callaway E. The coronavirus is mutating - does it matter ?. Nature. (<https://www.nature.com/articles/d41586-020-02544-6>) There is information about the importance of mutations in this reference.

This sentence was added: "Although researchers have catalogued more than 12,000 mutations in SARS-CoV-2 genomes, but different SARS-CoV-2 strains haven't yet had a major impact on the course of the pandemic, but they might in future".

4. In references that have not been added in accordance with the journal's writing rules and should be revised.

All references checked.

Reviewer 2

Dear Editor

This review article focuses on the current issue, factors affecting the spread of the COVID-19 pandemic. Since these data are constantly updated and renewed rapidly, I express my opinion that it would be beneficial to publish the article early, after the following corrections..

1. Title of Article "Features Affecting the Spreading of SARS-CoV-2 and Risk Factors: Epidemiological, Immunological and Virological Aspects" can be rearranged. The fast-spreading feature of the virus can be highlighted in the title.

Title has been reorganized as "Rapid Spreading of SARS-CoV-2 Infection and Risk Factors: Epidemiological, Immunological and Virological Aspects".

2. It can be updated before publication, as the number of cases around the world is changing rapidly.

Number of cases updated.

3. Information on basic protective measures can be added on the figures.

The following parts have been added to the figures:



Hakem 1: Revizyon sonrası değerlendirme	Kabul	Reviewer 1: Evaluation after revision	Accept
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Dear Editor
Revisions are appropriate and sufficient.

iThenticate benzerlik oranı (son inceleme)	%22	iThenticate similarity rate (last review)	22%
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Abstract

A recent study has shown that SARS-CoV and SARS-CoV-2 can remain infectious in aerosols for up to 3 hours (infectious titer with a decrease from SARS-CoV 104.3 TCID50 to 103.5 per liter of air, similarly 103.5 TCID50 to 102.7 for SARS-CoV-2) [54]. In the same study, it was reported that both viruses showed the longest durability on stainless steel and plastic (the estimated average half-life of SARS-CoV-2 was found to be approximately 5.6 hours in stainless steel and 6.8 hours in plastic) [54]. The stability of SARS-CoV-2 is similar to that of SARS-CoV under the tested experimental conditions, and differences in the epidemiological characteristics of these viruses are thought to be due to other factors, including high viral loads in the upper respiratory tract, differences in upstream receptor affinity, and the potential for transmitting the virus when SARS-CoV-2 infected persons were asymptomatic [20,54,107-109].

It has been shown that SARS-CoV is affected by temperature and low ambient temperature supports the persistence of the virus on surfaces [110]. This information was supported by another study published in 2011, in which the stability of the SARS-CoV at different temperatures and relative humidity on smooth surfaces were studied [111]. In the study, dried virus on smooth surfaces has been shown to maintain its viability for 5 days at 22-25°C and 40-50% relative humidity (i.e. typical air-conditioned environments) [111]. However, at higher temperatures and higher relative humidity (e.g. 38°C and relative humidity >95%) viability of the virus is rapidly lost (> 3 log₁₀). The better stability of SARS-CoV in low temperature and low humidity environment has been interpreted as the social transmission of the virus may increase in the spring months and in air-conditioned environments [111]. This is likely to be the case for SARS-CoV-2, which has similar structural features. In a new study in which potential diffusion characteristics for COVID-19 are analyzed and discussed according to temperature, humidity and latitude changes, it has been suggested that absolute humidity above 10 g/m³ may slow the transmission of 2019-nCoV [70].

2. Receptor affinity and S gene mutations

SARS-CoV-2 uses the same cellular receptor as SARS-CoV, namely the human angiotensin converting enzyme 2 (hACE2) receptor to enter cells [1]. Unlike SARS-CoV, it is thought that one of the factors that responsible for the easier spread of SARS-CoV-2 in the society is high receptor affinity. As a matter of fact, it has been reported in different studies that SARS-CoV-2 has the ACE2 receptor 4-10 times stronger than SARS-CoV [108,109]. Furthermore, high receptor affinity is thought to be one of the most important factors that affect the easy adaptation of the virus to humans and the rapid social spread of the disease [1].

22%
SIMILARITY INDEX

PRIMARY SOURCES

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- 2. www.aepap.org 68 words — 1%
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- 11. Iek Long Lo, Chen Fu Lio, Hou Hon Cheong, Chan Ioi Lei, Tak Hong Cheong, Ju Zhong, Yukun Tian, Nien Ngan Sin. "Evaluation of SARS-CoV-2 RNA shedding in clinical specimens and clinical characteristics of 10 patients with COVID-19 in Macau", International Journal of Biological Sciences, 2020
- 12. online.library.wiley.com 37 words — 1%
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- 16. reacting.inserm.fr 27 words — < 1%

Editör / Alan Editörü kararı	Kabul edildi	Decision of Editor / Field Editor	Accepted
Makale kabul tarihi	21.09.2020	Article accepted date	21.09.2020
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