# Evidence Search Service Results of your search request

## Effectiveness of mouthwash against SARS-COV-2

**ID of request:** 23590  
**Date of request:** 4th June, 2020  
**Date of completion:** 5th June, 2020

If you would like to request any articles or any further help, please contact:  Tom Roper at [tom.roper@nhs.net](mailto:tom.roper@nhs.net)

Please acknowledge this work in any resulting paper or presentation as: Evidence search: Effectiveness of mouthwash against SARS-COV-2. Tom Roper. ( 5th June, 2020). BRIGHTON, UK: Brighton and Sussex Library and Knowledge Service.

**Sources searched**  
Canadian Agency for Drugs and Technologies in Health (0)  
Centers for Disease Control and Prevention (0)  
Cochrane Library (0)  
ECRI Institute (0)  
EMBASE (11)  
EvidenceAid (0)  
Joanna Briggs Institute COVID-19 Special Collection (0)  
MEDLINE (4)  
McMaster University COVID-19 Evidence (0)  
NICE Evidence Search (1)  
National Institute for Health iSearch COVID-19 portfolio (0)  
Oxford COVID-19 Evidence Service (0)  
TRIP Database (1)  
VA Evidence Synthesis Program (0)  
WHO COVID-19 Global literature on coronavirus disease (0)  
WHO International Clinical Trials Registry Platform (0)  
medRxiv (1)

**Date range used** (5 years, 10 years): 2019 onwards   
**Limits used** (gender, article/study type, etc.): None   
**Search terms and notes** (full search strategy for database searches below):

Relevant natural language and controlled vocabulary terms were selected and combined. Thesaurus terms were adapted for different databases. Final result sets were de-duplicated and reviewed for relevance by the searcher, irrelevant results being discarded.

In addition to conventional databases, preprint servers and grey-literature sources were also searched.

For more information about the resources please go to: <https://www.bsuh.nhs.uk/library/>.

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16. [SINUS WASH Pilot Study in Adults Testing Positive for COVID-19](#Research668046)
17. [Topical preparations to reduce SARS-CoV-2 aerosolization in head and neck mucosal surgery](#Research668036)

### [C. Search History](#SearchHistory)

## A. Systematic Reviews

#### PROSPERO

**Effectiveness of mouthwashes in decreasing viral load in COVID-19** (2020)

Cavalcante de Leão BL et al

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=d0857b616fdc6332609e83890b73397a)

Systematic review in progress. Registered with PROSPERO on 30th April, expected to report on 5th June 2020

## B. Original Research

1. **A pilot study of the ability of povidone-iodine (PVP-I) 0.5% aqueous solution oral/nasal spray and mouthwash to kill the SARS-CoV-2 virus in people with COVID-19**  
   Kirk-Bayley J. ISRCTN Registry 2020;:ISRCTN13447477.

The study tests the hypothesis that administration of a povidone iodine (PVP-I) nasal spray and mouthwash to COVID-19 sufferers reduces the SARS-CoV-2 viral titres found in their saliva and nose when compared to a water nasal spray and mouthwash. Trial in progress from March to July 2020

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=4305a7b5b8039a5ca406ee45c96e70e4)

1. **Antimicrobial mouthwashes (gargling) and nasal sprays administered to patients with suspected or confirmed COVID-19 infection to improve patient outcomes and to protect healthcare workers treating them**  
   Burton M.J. Cochrane Database of Systematic Reviews 2020;2020(5):CD013627.

Objectives: This is a protocol for a Cochrane Review (intervention). The objectives are as follows:. To assess the benefits and harms of antimicrobial mouthwashes and nasal sprays administered to patients with suspected or confirmed COVID-19 infection in order to protect the healthcare workers (HCWs) caring for them. To assess the benefits and harms of antimicrobial mouthwashes and nasal spray in improving outcomes for patients with suspected or confirmed COVID-19 infection.Copyright © 2020 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=54296e52d55d51da0fd1bb3c9fe6a38a)

1. **Antiseptic Mouthwash / Pre-Procedural Rinse on SARS-CoV-2 Load (COVID-19)**  
   Anon. ClinicalTrials.gov 2020;:No page numbers.

In this pilot trial, 120 confirmed COVID-19 individuals will be randomly assigned to 1 of 4 groups: distilled water, CloSYS (Rowpar Pharmaceutical Inc., USA), Oral-B Mouth Sore (Oral-B, USA), or Crest Pro-Health Multi-Protection (Crest, USA). Study participants will be asked to rinse/gargle with 10ml (2 teaspoons) of the assigned solutions 4 times per day, for 15 seconds, for 4 weeks.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=27f7e2117569639d133b17c0879c1242)

1. **Clinical Significance of a High SARS-CoV-2 Viral Load in the Saliva.**  
   Yoon Jin Gu Journal of Korean medical science 2020;35(20):e195.

BACKGROUND: Patients with coronavirus disease 2019 (COVID-19) can unknowingly spread the virus to several people during the early subclinical period., METHODS: We evaluated the viral dynamics in various body fluid specimens, such as nasopharyngeal swab, oropharyngeal swab, saliva, sputum, and urine specimens, of two patients with COVID-19 from hospital day 1 to 9. Additional samples of the saliva were taken at 1 hour, 2 hours, and 4 hours after using a chlorhexidine mouthwash. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viral load was determined by real-time reverse transcriptase polymerase chain reaction (rRT-PCR)., RESULTS: SARS-CoV-2 was detected from all the five specimens of both patients by rRT-PCR. The viral load was the highest in the nasopharynx (patient 1 = 8.41 log10 copies/mL; patient 2 = 7.49 log10 copies/mL), but it was also remarkably high in the saliva (patient 1 = 6.63 log10 copies/mL; patient 2 = 7.10 log10 copies/mL). SARS-CoV-2 was detected up to hospital day 6 (illness day 9 for patient 2) from the saliva of both patients. The viral load in the saliva decreased transiently for 2 hours after using the chlorhexidine mouthwash., CONCLUSION: SARS-CoV-2 viral load was consistently high in the saliva; it was relatively higher than that in the oropharynx during the early stage of COVID-19. Chlorhexidine mouthwash was effective in reducing the SARS-CoV-2 viral load in the saliva for a short-term period. Copyright © 2020 The Korean Academy of Medical Sciences.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=37489d85978b4ca8f3bf17c272bf6c7a)

1. **Consideration of povidone-iodine as a public health intervention for COVID-19: Utilization as "Personal Protective Equipment" for frontline providers exposed in high-risk head and neck and skull base oncology care**  
   Mady L.J. Oral Oncology 2020;105:104724.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=97ee316c81b9806772def0ea2b87c089)

1. **COVID-19: A recommendation to examine the effect of mouthrinses with beta-cyclodextrin combined with citrox in preventing infection and progression**  
   Carrouel F. Journal of Clinical Medicine 2020;9(4):1126.

Considered to be a major portal of entry for infectious agents, the oral cavity is directly associated with the evolutionary process of SARS-CoV-2 in its inhalation of ambient particles in the air and in expectorations. Some new generations of mouth rinses currently on the market have ingredients that could contribute to lower the SARS-CoV-2 viral load, and thus facilitate the fight against oral transmission. If chlorhexidine, a usual component of mouth rinse, is not efficient to kill SARS-CoV-2, the use of a mouth rinses and/or with local nasal applications that contain beta-cyclodextrins combined with flavonoids agents, such as Citrox, could provide valuable adjunctive treatment to reduce the viral load of saliva and nasopharyngeal microbiota, including potential SARS-CoV-2 carriage. We urge national agencies and authorities to start clinical trials to evaluate the preventive effects of betaCD-Citrox therapeutic oral biofilm rinses in reducing the viral load of the infection and possibly disease progression.Copyright © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=7f61ff0a595f4cab91bf799a97094c76)

1. **Gargle lavage as a safe and sensitive alternative to swab samples to diagnose COVID-19: a case report in Japan**  
   Saito M. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America 2020;:No page numbers.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=69d0c9f3aab2c057861349d70c1faad4)

1. **Hypertonic saline nasal irrigation and gargling should be considered as a treatment option for COVID-19**  
   Ramalingam S. Journal of global health 2020;10(1):010332.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=7750965e28f96339d8203bc1ec2aecc4)

1. **In Vitro Efficacy of Povidone-Iodine Nasal And Oral Antiseptic Preparations Against Severe Acute Respiratory Syndrome-Coronavirus 2 (SARS-CoV-2)**  
   Pelletier J. et al 2020;:https://doi.org/10.1101/2020.05.25.20110239.

Nasal and oral PVP-I antiseptic solutions are effective at inactivating the SARS-CoV-2 virus at a variety of concentrations after 60s exposure times. The formulations tested may help to reduce the transmission of SARS-CoV-2 if used for nasal decontamination, oral decontamination or surface decontamination in known or suspected cases of COVID-19. [NB medRxiv papers have not yet been peer-reviewed-TR]

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=fb84db671abed23d43f8b986defd68e9)

1. **Just one more hygiene practice in COVID-19**  
   Gui D. European Review for Medical and Pharmacological Sciences 2020;24(7):3438-3439.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=07f9281a26d26738c78d6ea45c5d04dc)

1. **Perioperative COVID-19 Defense: An Evidence-Based Approach for Optimization of Infection Control and Operating Room Management**  
   Dexter F. Anesthesia and analgesia 2020;:No page numbers.

We describe an evidence-based approach for optimization of infection control and operating room management during the Coronavirus Disease of 2019 (COVID-19) pandemic. Confirmed modes of viral transmission are primarily contact with contaminated environmental surfaces and aerosolization. Evidence-based improvement strategies for attenuation of residual environmental contamination involve a combination of deep cleaning with surface disinfectants and ultraviolet light (UV-C). Clinician components include placing alcohol-based hand rubs (ABHR) on the intravenous (IV) pole to the left of the provider and utilization of double glove techniques during induction. In addition, a wire basket lined with a zip closure plastic bag should be located on the IV pole to the right of the provider, and all contaminated instruments placed in the bag (i.e. laryngoscope blades and handles) and securely closed. Anesthesia professionals should designate and maintain clean and dirty areas in their work environment. After the induction of anesthesia, we recommend providers wipe down all equipment and surfaces with disinfection wipes that contain a quaternary ammonium compound and alcohol, using a top down cleaning sequence adequate to reduce the bioburden. We endorse cleaning operating rooms with use of UV-C lights. Patients should decolonize using pre-procedural chlorhexidine wipes, two doses of nasal povidone iodine within one hour of incision, and a chlorhexidine mouth rinse. All IV line ports must be closed and use vigorous hub disinfection. Lastly, end users need timely feedback of infectious data collected by surveillance of classic pathogen transmission.OR management should strive to reduce the use of surgical masks and minimize potential COVID-19 exposure by scheduling relatively long (e.g., 12-hour) staff shifts. For instance, if there are 8 essential cases to be done (each lasting 1-2 hours), the ideal solution is to have 2 teams complete the 8 cases, and to avoid 8 first case starts. The ideal schedule should accommodate one case in each operating room daily, with terminal cleaning after each case including UV-C light or equivalent. After emergence from anesthesia, it is best to have most patients recover in the room where they had surgery, a strategy quite common in Japan. This avoids having patients clustered into a large, pooled phase I post-anesthesia care unit, and minimizes the risk of contaminating more staff and the facility at large. In summary, these 8 programmatic recommendations stand on a substantial body of empirical evidence characterizing the epidemiology of perioperative transmission and infection transmission supported by grants from the Anesthesia Patient Safety Foundation (APSF).

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=212b8db606d33c88bf19da1a17f6b1a4)

1. **Pharynx gargle samples are suitable for SARS-CoV-2 diagnostic and save personal protective equipment and swabs**  
   Malecki M. Infection Control and Hospital Epidemiology 2020;:No page numbers.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=c283ad72c6a0e6e07bd8be8048df8908)

1. **Povidone Iodine Mouthwash, Gargle, and Nasal Spray to Reduce Naso- Pharyngeal Viral Load in Patients With COVID-19**  
   Anon. ClinicalTrials.gov 2020;:No page numbers.

The SARS-CoV-2 coronavirus pandemic is responsible for more than 180,000 deaths worldwide and 20,000 deaths in France. To date, no treatment or vaccine has been successful. Povidone-iodine is an antiseptic suitable for use on the skin and mucosa with potent virucidal activity, particularly against coronaviruses. It is marketed for oro-nasopharyngeal decolonization. 24 patients with positive nasopharyngeal SARS-CoV-2 carriage will be randomized (1:1) in an experimental group (benefiting from povidone iodine decolonization) or a control group. Patients in the experimental group will be asked to gargle with a 1% povidone-iodine solution, spray their nose with the same antiseptic solution, and finally applied 10% povidone-iodine cream in each nostril, all four times a day for five days. Patients will be followed for 7 days to evaluate the efficacy and safety of povidone iodine decolonization.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=5e0f6497745356fa165ca470f6a708ed)

1. **Povidone-iodine gargle as a prophylactic intervention to interrupt the transmission of SARS-CoV-2**  
   Pattanshetty S. Oral Diseases 2020;:No page numbers.

Coronavirus disease 2019 (COVID-19), caused by a novel coronavirus, SARS-COV-2 was declared a Public Health Emergency of International Concern (PHEIC) by the World Health Organization (WHO) in January 2020. Human-to-Human transmission occurs through close contact with an infected person or surfaces that are contaminated with droplets or secretions.Copyright This article is protected by copyright. All rights reserved.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=337f2cc11cccc18ce1be613d59f0d31f)

1. **Repurposing Quaternary Ammonium Compounds as Potential Treatments for COVID-19.**  
   Baker Nancy Pharmaceutical research 2020;37(6):104.

The COVID-19 pandemic has highlighted an important role for drug repurposing. Quaternary ammonium compounds such as ammonium chloride, cetylpyridinium and miramistin represent widely accessible antiseptic molecules with well-known broad-spectrum antiviral activities and represent a repurposing opportunity as therapeutics against SARS-CoV-2.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=cb715bd5181c0bf441549b713c0d965a)

1. **SINUS WASH Pilot Study in Adults Testing Positive for COVID-19**  
   Anon. ClinicalTrials.gov 2020;:No page numbers.

COVID-19 is highly infectious and transmission of the virus is thought to be similar to that of influenza which can be transferred through droplets released when a person coughs, sneezes or talks. Studies have shown that nasal rinsing and mouth washes may be an important way to deliver treatments that could reduce the amount of a virus that is present in the nose and mouth. This also could mean that there is less virus available to pass on to others. We want to see if the use of nose rinses and mouth washes using Povidone-Iodine will reduce the the amount of virus in the nose and throat of people who have tested positive for COVID-19 disease and also reduce the spread of infection within their household.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=896a8d16b5f8a0694ca132a60001e546)

1. **Topical preparations to reduce SARS-CoV-2 aerosolization in head and neck mucosal surgery**  
   Parhar H.S. Head and Neck 2020;:No page numbers.

Aim: The COVID-19 pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has put health care workers at risk when exposed to aerosolized viral particles during upper airway mucosal surgery. The objective of this review was to discuss topical preparations that could be utilized preoperatively to help to decrease viral load and potentially reduce the risks of viral transmission. Method(s): A PubMed/MEDLINE database review of articles was performed querying topical preparations with virucidal activity against coronaviruses. Result(s): Povidone-iodine (PVP-I) solutions ranging from 0.23% to 7% have been found to demonstrate highly effective virucidal activity against a broad range of viruses including several coronaviruses responsible for recent epidemics including SARS-CoV-1 and MERS-CoV. Conclusion(s): While specific evidence regarding SARS-CoV-2 is lacking, PVP-I-based preparations have been successfully demonstrated to reduce viral loads of coronaviruses. They are relatively safe to use in the upper airway and may reduce risk of SARS-CoV-2 aerosolization during upper airway mucosal surgery.Copyright © 2020 Wiley Periodicals, Inc.

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### Opening Internet Links

The links to internet sites in this document are 'live' and can be opened by holding down the CTRL key on your keyboard while clicking on the web address with your mouse

### Full text papers

Links are given to full text resources where available. For some of the papers, you will need an **NHS OpenAthens Account**. If you do not have an account you can [register online](https://openathens.nice.org.uk/).

You can then access the papers by simply entering your username and password. If you do not have easy access to the internet to gain access, please let us know and we can download the papers for you.

### Guidance on searching within online documents

Links are provided to the full text of each document. Relevant extracts have been copied and pasted into these results. Rather than browse through lengthy documents, you can search for specific words as follows:

**Portable Document Format / pdf / Adobe**  
Click on the Search button (illustrated with binoculars). This will open up a search window. Type in the term you need to find and links to all of the references to that term within the document will be displayed in the window. You can jump to each reference by clicking it.

**Word documents**  
Select Edit from the menu, the Find and type in your term in the search box which is presented. The search function will locate the first use of the term in the document. By pressing 'next' you will jump to further references.

## C. Search History

|  | **Source** | **Criteria** | **Results** |
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| 1. | EMBASE | exp \*betacoronavirus/ or exp \*Coronavirus infection/ | 14028 |
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| 3. | EMBASE | ((novel or new or nouveau or "2019") adj2 (coronavirus\* or "corona virus\*" or coronovirus\* or coronavirinae\*)).ti,ab. | 5220 |
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| 6. | EMBASE | ((outbreak\* or wildlife\* or pandemic\* or epidemic\*) adj1 (China\* or Chinese\* or Huanan\*)).ti,ab. | 94 |
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| 11. | EMBASE | oral rins\*.ti,ab. | 967 |
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| 13. | EMBASE | Cetylpyridinium salt/ | 2122 |
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| 15. | EMBASE | Povidone iodine/ | 10204 |
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| 17. | EMBASE | 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 | 40397 |
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| 19. | EMBASE | limit 18 to yr="2019 -Current" | 19 |
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| 2. | EMBASE | ((corona\* or corono\*) adj1 (virus\* or viral\* or virinae\*)).ti,ab. | 874 |
| 3. | EMBASE | ((novel or new or nouveau or "2019") adj2 (coronavirus\* or "corona virus\*" or coronovirus\* or coronavirinae\*)).ti,ab. | 5220 |
| 4. | EMBASE | (Wuhan\* or Hubei\* or Huanan or "2019-nCoV" or 2019nCoV or nCoV2019 or "nCoV-2019" or "COVID-19" or COVID19 or "CORVID-19" or CORVID19 or "WN-CoV" or WNCoV or "HCoV-19" or HCoV19 or CoV or "2019 novel\*" or Ncov or "n-cov" or "SARS-CoV-2" or "SARSCoV-2" or "SARSCoV2" or "SARS-CoV2" or SARSCov19 or "SARS-Cov19" or "SARSCov-19" or "SARS-Cov-19" or Ncovor or Ncorona\* or Ncorono\* or NcovWuhan\* or NcovHubei\* or NcovChina\* or NcovChinese\*).ti,ab. | 28162 |
| 5. | EMBASE | (("seafood market\*" or "food market\*") adj10 (Wuhan\* or Hubei\* or China\* or Chinese\* or Huanan\*)).ti,ab. | 63 |
| 6. | EMBASE | ((outbreak\* or wildlife\* or pandemic\* or epidemic\*) adj1 (China\* or Chinese\* or Huanan\*)).ti,ab. | 94 |
| 7. | EMBASE | 1 or 2 or 3 or 4 or 5 or 6 | 36257 |
| 8. | EMBASE | Mouthwash/ | 4416 |
| 9. | EMBASE | (mouth wash\* or mouthwash\*).ti,ab. | 3460 |
| 10. | EMBASE | (mouth rinse\* or mouthrins\*).ti,ab. | 2689 |
| 11. | EMBASE | oral rins\*.ti,ab. | 967 |
| 12. | EMBASE | (gargle\* or gargling).ti,ab. | 783 |
| 13. | EMBASE | Cetylpyridinium salt/ | 2122 |
| 14. | EMBASE | Chlorhexidine/ | 17306 |
| 15. | EMBASE | Povidone iodine/ | 10204 |
| 16. | EMBASE | (chlorhexidine or betadine$ or triclosan or cepacol or Corsodyl or Peridex or Hibident or Prexidine or Parodex or Chlorexil or Peridont or Eludril or Perioxidin or Chlorohex or Savacol or Periogard or Chlorhexamed or Nolvasan or Sebidin or Tubulicid or hibitane).ti,ab. | 16736 |
| 17. | EMBASE | 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 | 40397 |
| 18. | EMBASE | 7 and 17 | 47 |
| 19. | EMBASE | limit 18 to yr="2019 -Current" | 19 |
| 1. | MEDLINE | exp \*BETACORONAVIRUS/ or exp \*CORONAVIRUS INFECTIONS/ | 15409 |
| 2. | MEDLINE | ((corona\* or corono\*) adj1 (virus\* or viral\* or virinae\*)).ti,ab. | 659 |
| 3. | MEDLINE | ((novel or new or nouveau or "2019") adj2 (coronavirus\* or "corona virus\*" or coronovirus\* or coronavirinae\*)).ti,ab. | 5713 |
| 4. | MEDLINE | (Wuhan\* or Hubei\* or Huanan or "2019-nCoV" or 2019nCoV or nCoV2019 or "nCoV-2019" or "COVID-19" or COVID19 or "CORVID-19" or CORVID19 or "WN-CoV" or WNCoV or "HCoV-19" or HCoV19 or CoV or "2019 novel\*" or Ncov or "n-cov" or "SARS-CoV-2" or "SARSCoV-2" or "SARSCoV2" or "SARS-CoV2" or SARSCov19 or "SARS-Cov19" or "SARSCov-19" or "SARS-Cov-19" or Ncovor or Ncorona\* or Ncorono\* or NcovWuhan\* or NcovHubei\* or NcovChina\* or NcovChinese\*).ti,ab. | 27084 |
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| 6. | MEDLINE | ((outbreak\* or wildlife\* or pandemic\* or epidemic\*) adj1 (China\* or Chinese\* or Huanan\*)).ti,ab. | 91 |
| 7. | MEDLINE | 1 or 2 or 3 or 4 or 5 or 6 | 36428 |
| 8. | MEDLINE | Mouthwashes/ | 5319 |
| 9. | MEDLINE | (mouth wash\* or mouthwash\*).ti,ab. | 2817 |
| 10. | MEDLINE | (mouth rinse\* or mouthrins\*).ti,ab. | 2617 |
| 11. | MEDLINE | oral rins\*.ti,ab. | 818 |
| 12. | MEDLINE | (gargle\* or gargling).ti,ab. | 515 |
| 13. | MEDLINE | Cetylpyridinium/ | 939 |
| 14. | MEDLINE | Chlorhexidine/ | 8302 |
| 15. | MEDLINE | Povidone-Iodine/ | 2829 |
| 16. | MEDLINE | (chlorhexidine or betadine$ or triclosan or cepacol or Corsodyl or Peridex or Hibident or Prexidine or Parodex or Chlorexil or Peridont or Eludril or Perioxidin or Chlorohex or Savacol or Periogard or Chlorhexamed or Nolvasan or Sebidin or Tubulicid or hibitane).ti,ab. | 14277 |
| 17. | MEDLINE | 8 or 9 or 10 or 13 or 14 or 15 or 16 | 23852 |
| 18. | MEDLINE | 7 and 17 | 21 |
| 19. | MEDLINE | limit 18 to yr="2019 -Current" | 8 |

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