

Best Evidence Topic Report 20

Titel:

Kan een sjabloon voor een teleconsult voor triage van patiënten met een mogelijke COVID-19 infectie ontworpen worden (flow-chart), wat wordt bevraagd en wanneer moet patiënt toch gezien worden?

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Antwoord op klinische vraag:

Aan de hand van enkele sterke meta-analyses, aangevuld met uitgebreide literatuur studies, maakte we een beslisboom om de taak van de telefonische triage gemakkelijker en meer gestructureerd te maken. De meest voorkomende symptomen, risico factoren en comorbiditeit werden met sterk bewijs beschreven. Echter is dit gebaseerd op artikels die gehospitaliseerde patiënten, die overigens een andere etniciteit hebben, beschreven en niet de ambulante patiënten die met hun initiële symptomen een eerste contact zoeken bij de huisarts. Hierover werd geen literatuur gevonden en we moeten concluderen dat deze beslisboom ontwikkeld is op een eerder lage kwaliteit van bewijs.

Disclaimer:

Deze rapporten zijn ontwikkeld volgens de methode van de Best Evidence Topics, kortweg bestBETs. Een bestBET beoogt een antwoord te geven op een specifieke klinische vraag, geformuleerd op basis van het op dit ogenblik best beschikbare bewijs. Omwille van de beperkte beschikbaarheid van wetenschappelijk bewijs voor COVID-19 topics, worden ook studies van lagere kwaliteit gebruikt. BestBETs bevatten geen aanbevelingen. Studenten 3^e Master geneeskunde van de KU Leuven werkten deze topics uit onder begeleiding van twee docenten, waarna ze volgens een vast stramien een eindrapport opstellen. Voor de validatie van deze rapporten, konden we beroep doen op de expertise van CEBAM, die de rapporten rigoreus toetste aan vooropgestelde kwaliteitscriteria.

Best Evidence Topic Report

Title	Kan een sjabloon voor een teleconsult ontworpen worden (flow-chart), wat wordt bevraagd en wanneer moet patiënt toch gezien worden?
Report by	Helen Oversteyns, student geneeskunde Lauren Oosterbos, student geneeskunde Bram Nys, student geneeskunde
Search checked by	Prof. Jean-Marie Degryse
Clinical scenario	The outbreak of COVID-19 in Belgium in March 2020: Design of a flowchart for telephone triage for patients with a possible COVID-19 infection. Which questions should be asked and which patients should be seen clinically?
Answerable question (PICO/PIRT/PEO/...)	P: Patients with possible COVID-19/Corona/SARS-CoV-2 infection I: Symptoms and risk factors of COVID-19 which can be assessed during a telephone triage C: Clinical investigation? O: Diagnosis of a moderate or severe COVID-19 infection
Search terms	"COVID-19" AND "Referral and Consultation" "COVID-19" "COVID-19" AND "Fever" "COVID-19" AND "Screening" "COVID-19" AND "Triage" "COVID19" AND "Risk factors" "COVID-19" AND "Signs and Symptoms" "Coronavirus COVID-19" AND "Symptoms" "Coronavirus COVID-19" AND "Telephone triage" "COVID-19" AND "Risk Factors" "COVID-19" AND "Vulnerable Populations" "Vulnerable Populations" AND "Respiratory Tract Infections" "Coronavirus" AND "Prodromal Symptoms" "COVID-19" AND "Conjunctivitis" "COVID-19" AND "Pregnancy" "COVID-19" AND "Comorbidities"

	"COVID-19" AND "Teleconsultation" "SARS-CoV-2" AND "Pyrexia idiopathica" AND "teleconsultation"
Search date	17.03.2020
Search outcome (number of hits)	718 hits
Relevant papers (number of final inclusions)	15 inclusions
Flow chart	<pre> graph TD A[Defining PICO] --> B[Search in Medline, Embase and Cochrane (n=718)] B --> C[Records screened (n=52)] C --> D[Full-text articles assessed for eligibility (n=32)] C --> E[Exclusion based on language, title and abstract (n=20)] D --> F[Initial included articles (n=23)] D --> G[Exclusion based on study type, full text and sample size (n=10)] H[Inclusion through different sources (n=1)] --> F F --> I[Included articles (n=15)] F --> J[Exclusion based on relevance to our clinical scenario (n=8)] </pre> The flow chart illustrates the systematic selection process for the review. It begins with the definition of the PICO (Population, Intervention, Comparison, Outcome). A search was conducted in Medline, Embase, and Cochrane, yielding 718 hits. From these, 52 records were screened, and 20 were excluded based on language, title, and abstract. The remaining 32 full-text articles were assessed for eligibility. Ten articles were excluded based on study type, full text, and sample size. This left 23 initial included articles. One article was added from different sources, bringing the total to 24. Eight articles were excluded based on relevance to the clinical scenario, resulting in 15 included articles.

Inclusion & exclusion criteria:

1. Language
 - Inclusion of articles in English
 - Exclusion of all articles in different languages
2. Title and abstract
 - Inclusion based on abstracts that assess:
 - i. COVID-19 patients
 - ii. Symptoms and/or risk factors of COVID-19
 - Exclusion based on abstracts that do not assess:
 - i. COVID-19 patients
 - ii. Symptoms and/or risk factors of COVID-19
3. Type of study
 - Inclusion of all (systematic) reviews, experimental studies, observational studies, guidelines and case reports.
 - Exclusion of cover letters, conference abstracts.
4. Study population
 - Inclusion of studies in an Asian population since there is little evidence in the Caucasian population
 - Exclusion of studies with possible sample bias
5. Full text
 - Inclusion of studies which are relevant for the development of a flowchart in the context of our research question, based on full text
 - Exclusion of studies which are not relevant for the development of a flowchart in the context of our research question, based on full text

Evidence table:

Author, date and country	Study type	Main risks of bias	Patient characteristics	Intervention/index test/exposure	Comparator	Outcome	Key results: RR, AR, NNT, sens/spec, LR+/LR-, HR, OR, other
Sun, P. et al 28.02.2020 China	Systematic review with meta-analysis Inclusion of 10 studies	All studies were retrospective studies with large heterogeneity Study subjects were inpatients with COVID-19 Most subjects were Chinese, while they aimed to use the conclusions of this study to predict patients in general, including other countries and races	50466 patients 52% male patients All confirmed COVID-19 infections	COVID-19	/	Clinical symptoms Complications Imaging Fatality rate	Most common symptoms: - 89,1% fever - 72,2% cough - 42,5% myalgia/fatigue Less common symptoms: Diarrhoea, haemoptysis, headache, sore throat 18,1% were severe cases 14,8% developed ARDS Fatality rate: 4,3%
Yang, J. et al 12.03.2020 China	Systematic review with meta-analysis Inclusion of 8 studies	High statistic heterogeneity Different lengths of follow-up No subgroup analysis	46248 patients with confirmed COVID-19 infection Mean age 46 years 51,6% male patients	COVID-19 Comparison between severe cases and non-severe cases	/	Prevalence, Clinical symptoms, comorbidity	Clinical symptoms: - 91% fever - 67% cough - 51% fatigue - 30% dyspnoea Comorbidity: - 17% Hypertension; OR 2,36 compared with non-severe cases - 8% Diabetes Mellitus; Non-significance OR 2,07 compared with non-severe cases - 5% Cardiovascular disease; OR 3,42 compared with non-severe cases - 2% Respiratory disease; OR 2,46 compared with non-severe cases
Li, LQ. et al 12.03.2020 China	Systematic review with single-arm meta-analysis Inclusion of 10 studies	Most included studies were case studies, little amount of randomized controlled studies	1995 patients 60% male patients	COVID-19	/	Clinical symptoms Discharge rate Fatality rate Laboratory results	Clinical symptoms: - Fever: 88.5% - Cough: 68.6% - Myalgia or fatigue: 35.8% - Expectoration: 28.2% - Dyspnea: 21.9%

							- Headache or dizziness: 12.1% - Diarrhea: 4.8% - Nausea and vomiting: 3.9% Fatality rate: 7% 43% of the dead patients had one or more of the following cases: - > 60 years - Cancer - Underlying diseases - Major infections Discharge rate of 42% between January 1 and February 7 Significant higher percentage of males infected
Singhal, T. et al 13.03.20 China	Literature review	No description of search strategies and criteria to include or exclude studies. Included studies were not validated in this literature study. No description of weaknesses or bias risks of the literature study.	A review based on the worldometer of coronavirus: on 05/03/2020 96,000 cases worldwide (80,000 in China) and 87 other countries and 1 international conveyance (696, in the cruise ship Diamond Princess parked off the coast of Japan) have been reported.	COVID-19	/	History of the pathogen, Origin and spread, epidemiology and pathogenesis, Clinical features, Diagnosis, Treatment and prevention	The common clinical features include fever (not in all), cough, sore throat, headache, fatigue, headache, myalgia and breathlessness. Conjunctivitis has also been described. Progression after 5 days: pneumonia, respiratory failure and death. The median time from onset of symptoms to dyspnea was 5 d, hospitalization 7 d and acute respiratory distress syndrome (ARDS) 8d. ICU need: 25–30% of affected patients Complications: acute lung injury, ARDS, shock & acute kidney injury. °recovery: 2-3rd week Adverse outcomes and death: more common in the elderly and in those with underlying co-morbidities (50–75% of fatal cases). Fatality rate: 4-11% hospitalized adult patients Overall fatality rate: 2-3%

							Neonates, infants and children: significantly milder
Wang, Y et al. 5.03.20 China	Literature review	No description of search strategies and criteria to include or exclude studies. Included studies were not validated in this literature study. No description of weaknesses or bias risks of the literature study.	82623 confirmed cases of Covid-19 & 2858 deaths globally Patients aged from 30 to 79 accounted for 86.6 % of all cases. The median age of the patients was 47 years.	COVID-19	Comparison to its two predecessors (SARS-CoV and MERS-CoV)	Genetics, epidemiology, clinical features, and further discussed challenges for diagnosis and special control measures for COVID-19.	Fatality rate COVID-19 in Wuhan (4.42%) and outside of China (1.83%), SARS (9.6%) or MERS (34.5%). SARS-CoV-2 share 79% nt sequence identity to SARS-CoV and around 50% to MERS-CoV. Basic reproductive values (R0) of COVID-19 at the early stage were calculated between 2 and 3.5, indicating that one patient could transmit the disease to two to three other people, which was higher than SARS and MERS. Clinical symptoms of severe and critical patients with COVID-19 resembled most of SARS and MERS - Fever, dry cough, myalgia, fatigue, dyspnea, anorexia, diarrhea, ARDS, arrhythmia, acute kidney injury, various degrees of liver damage, and septic shock. - Common symptoms of hospitalized patients with COVID-19 included fever (98.6%), fatigue (69.6%), and dry cough, diarrhea. - Less common symptoms included muscle ache, confusion, headache, sore throat, rhinorrhea, chest pain, sputum production, and nausea and vomiting. - Severe complications included acute respiratory distress syndrome, RNAemia, acute cardiac injury, and multiple organ failure. The median time from first symptom to dyspnea was 5.0 days, to hospital

							admission was 7.0 days, and to ARDS was 8.0 days
He, F et al 14.03.2020 China	Literature review	No description of search strategies and criteria to include or exclude studies. Included studies were not validated in this literature study. No description of weaknesses or bias risks of the literature study.	Review based on the WHO registration of all the cases in China (78630) and the spread to 46 countries (total of 3664 cases) by February 27, 2020 Most patients between 30-79 years old More than 50% are male Half of the cases had one or more coexisting medical condition	COVID-19	Comparison to the SARS-CoV and MERS-CoV cases	Review of the pathogen, clinical features, diagnosis and treatment of COVID-19	Main symptoms: fever, fatigue, dry cough, myalgia, dyspnea More uncommon symptoms: sputum production, headache, hemoptysis, diarrhea, pleuritic chest pain Severe ill patients reported dyspnea and tachypnea as important symptoms Case-fatality rate is elevated among those patients with coexisting medical conditions Good contact history, systemic symptoms, radiographic changes of pneumonia make the diagnosis likely, laboratory diagnosis is more reliable
Deng, SQ et al. 20.02.20 China	Literature review	No description of search strategies and criteria to include or exclude studies. Included studies were not validated in this literature study. No description of weaknesses or bias risks of the literature study.	59,804 patients with COVID-19 in China on 12.02.20, with a mean age of 55.5 years. Women (32%) and males (67%), according to the Diagnosis & Treatment Scheme for Novel Coronavirus Pneumonia (Trial) 6th Edition” enacted by the National Health Commission of the People’s Republic of China on 19 February 2020.	COVID-19	/	epidemiology, pathogenicity, clinical features, and measures of treatment, prevention, and control for this disease.	Incubation time after exposure: 1–14 days [20]. Main manifestations: Fever, fatigue, and a dry cough. Rare symptoms: Nasal obstruction, runny nose, and other upper respiratory symptoms 50% dyspnea one week later. The aged patients & the patients with basic diseases have worse prognosis. Children are relatively mild. Mild: have mild symptoms, no pneumonia manifestation in chest image; Common: have fever, respiratory symptoms, and pneumonia manifestation in chest image; Severe cases: comply with any item of the follows. - (A) dyspnea, respiratory rate 30 times/min;

							- (B) at resting state, finger oxygen saturation $\leq 93\%$; - (C) $\text{PaO}_2/\text{FiO}_2 \leq 300$ mmHg (1mmHg = 0.133 kPa, PaO_2: arterial partial pressure of oxygen, FiO_2: fractional concentration of inspired oxygen); Critical: comply with any item of the follows. - (A) show respiratory failure and mechanical ventilation is required; - (B) present with shock; - (C) combine with other organ failure needing Intensive Care Unit (ICU) monitoring and treatment; - (D) chest imaging shows multilobe lesions or progress of lesion focus within 48 h $\geq 50\%$; (E) combine with other clinical conditions requiring hospitalization.
Lai, CC. et al 03.03.2020 China	Literature review	No description of search strategies and criteria to include or exclude studies. Included studies were not validated in this literature study. No description of weaknesses or bias risks of the literature study.	Review of 5 retrospective cohort studies Total of 1438 patients with confirmed COVID-19 infection	COVID-19	/	Review of clinical characteristics, comorbidity, complications and treatment of COVID-19	- Most common symptoms: fever, cough, sore throat, myalgia, fatigue, sputum production and dyspnea - Most common comorbidity: hypertension and diabetes mellitus - Other comorbidity like COPD, chronic kidney disease, chronic liver disease and malignancy are less common
Jiang, F. et al 04.03.2020 China	Literature review	Description of search strategy, but no description of the inclusion criteria. No description of	Review of 6 retrospective cohort studies Total of 783 patients with confirmed COVID-19 infection	COVID-19	/	Clinical, imaging and laboratory, characteristics of confirmed cases, complications Treatment of COVID-19	Most common symptoms: - >90% fever - 75% cough - 50% dyspnoea - small, but significant amount of patients with gastrointestinal symptoms

		weaknesses of the literature study. Summary of the included studies were described briefly.				Discharge rate vs fatality rate	Fatality rate 2%, with most common causes ARDS, AKI, myocardial injury
Guan, W. et al 28.02.20 China	Retrospective cohort study	Fever was defined as an axillary temperature of 37.5°C or higher Non-randomised selection No inclusion of moderately ill patients No inclusion of patients who did not seek medical help Incomplete documentation of exposure history and laboratory testing	1099 patients with laboratory-confirmed COVID-19, both hospitalized and outpatient setting Median age of 47 years 41.9% female, 58.1% male	Laboratory-confirmed COVID-19	/	Admission to ICU Use of mechanical ventilation Death Rate of death Time from symptom onset until the composite endpoint	Reported symptoms: - Fever: 43.8% on admission and 88.7% during hospitalization - Cough: 67.8% - Nausea or vomiting: 5.0% - Diarrhea: 3.8% Afebrile patients might be missed 23.7% had at least one co-existing illness Median incubation period of 4 days Severe illness in 15.7% of the patients after admission to a hospital Higher degree of severity in older patients (by a median of 7 years) and in patients with a coexisting illness Compromised respiratory status on admission was associated with worse outcomes Outcomes: - Admission to the ICU: 5.0% - Mechanical ventilation: 2.3% Death: 1.4%
Zhu, W et al. 13.03.20 China	Retrospective descriptive study	Small sample size, but the suspected patients not covered by the guidelines or not typical were not included, minimizing the bias Only patients from the Anhui province were included	116 patients with a suspicion of Covid-19 were included in the study. The inclusion criteria were: 1) patients defined as suspected SARS-CoV-2 infection based on guidelines for the diagnosis and	Covid-19 nucleic acid amplification test. - Positive test: admitted to the hospital Negative result: quarantine and underwent a second test > 24 hours; of these, patients with a second negative result: not infected and were	Negative tested patients	Epidemiological characteristics, Clinical manifestation, Laboratory tests, Chest CT findings	Epidemiological characteristics 32 patients with Covid-19. Median age 46 years; 35 years for negative cases. Men 47% diagnosed group & 46% negative group. Comorbidity: Smoking: 19% & 15% negative group. Hypertension: 22% & 18% negative group. Diabetes: 13% & 7% negative group. Clinical manifestation:

		Due to different times from illness onset to admission, and incomplete collection of data, there was a lack of rigorous grouping and effective statistical analysis	treatment of pneumonia caused by novel coronavirus infection (trial version III), 2) presentation to, clinical observation and quarantine in our ED and 3) nucleic acid amplification test performed in our ED. The exclusion criteria were: 1) transfer from another hospital or previous visit to our hospital and 2) previous diagnosis of COVID-19.	discharged from the hospital.			- Fever 84% & 68% negative - Cough 66% & 62% negative - Myalgia or fatigue 16% & 7% negative - Sputum: 16% & 20% negative - Highest temperature in diagnosed group: 1st and 2nd days in the ED were 37.3±0.8°C and 37.7±0.8°C, respectively Highest temperature in negative group: 1st at the ED were 37.1±0.7°C and 37±0.6°C, respectively
Chen, N et al. 15.02.20 China	Retrospective, single-centred, descriptive study	Small sample size, only diagnosed COVID-19 cases in Wuhan were included and suspected but undiagnosed cases were ruled out in the analyses. More detailed patient information, particularly regarding clinical outcomes, was unavailable at the time of analysis	99 patients with 2019-nCoV. 49 had an history of exposure to the Huanan seafood market and 47 of them had a long time exposure. 50 (51%) patients had chronic diseases. Mean age 55,5 years. Men 68% and woman 32%	Laboratory-confirmed COVID-19	/	Epidemiological characteristics, Clinical features, Chest CT findings, Death	Signs and symptoms at admission: - Fever 82 (83%) - Cough 81 (82%) - Shortness of breath 31 (31%) - Muscle ache 11 (11%) - Confusion 9 (9%) - Headache 8 (8%) - Sore throat 5 (5%) - Rhinorrhea 4 (4%) - Chest pain 2 (2%) - Diarrhea 2 (2%) - Nausea and vomiting 1 (1%) - More than one sign or symptom 89 (90%) - Fever, cough & shortness of breath 15 (15%) Comorbidities: 33 (33%) - ARDS 17 (17%) - Acute renal injury 3 (3%) - Acute respiratory injury 8 (8%) - Septic shock 4 (4%) - Ventilator-associated pneumonia 1 (1%)

							Unilateral pneumonia 25 (25%) Bilateral pneumonia 74 (75%) Died: 11 (11%)
Wang, Z et al. 16.03.20 China	Retrospective cohort study	The outcomes of two cases were lost (due to transfer to an infection specialized hospital and due to loss of contact) Small sample size	69 patients with COVID-19. Mean age 42 years. 32 patients (46%) were men, and 37 patients (54%) were women. Patients were divided in SpO2<90% (n=14) & SpO2≥90% (n=55) Median age of the SpO2≥90% group was 37.0 years (IQR 32.0-51.0), whereas the median age of the SpO2<90% group was 70.5 years (IQR 62.0-77.0).	Laboratory-confirmed COVID-19 with PCR tests.	/	Epidemiological, clinical, imaging, and serological records and treatment and outcomes data	SpO2<90% group: - Median occurrence time of lowest SpO2 was 1 day (IQR 0-2.0) after admission - Median interval from onset of illness to time of lowest SpO2 during admission was 8.5 days (IQR 7.0-11.0). - More comorbidities: hypertension (5[36%] vs 4[7%]), cardiovascular disease (5[36%] vs 3[5%], and diabetes (6[43%] vs 1[2%]). Signs and symptoms: - Fever: (60[87%]), day 10: 30 (43%) - T: 38.1°C-39°C: 40 (58), day 10: 15 (22%) - T >39°C: 13 (19%) - Other common clinical manifestations: cough (38[55%]), fatigue (29[42%]), and myalgia (21[33%]). - Less common symptoms were sputum production, oppression in chest, dyspnea, diarrhea, and headache,... SpO2<90% group: more frequency of fever and dyspnea.
Zhao, D et al. 12.03.20 China	Retrospective comparative study	Small sample size Some of the laboratory tests were not conducted in the two hospitals Lack of severe infection cases to compare severe with mild infection	19 NCOVID-19 patients and 15 NON-NCOVID-19 patients selected from Jan 23 to Feb 5, 2020. Mean age: 48 years in NCOVID-19 patients, 35 years in	COVID-19	NON-NCOVID-19 pneumonia	Epidemiological, clinical, laboratory, and radiological characteristics data. ICU admission Mechanical ventilation	The median duration from exposure to onset is 8 (IQR: 6~11) and 5 (IQR: 4~11) days in NCOVID-19 and NON-NCOVID-19 patients, respectively. Most common symptoms at onset of illness: fever and cough in both NCOVID-19 (15 [78.95%] and 9 [47.37%] of 19) and NON-NCOVID-19 (14 [93.33%] and 12 [80%] of 15) patients.

		Lack of pediatric population	NONCOVID-19 patients Woman: 42,11% in NCovid-19 patients and 60% in NONCovid-19 patients				Less common symptoms of NCOVID-19 patients: sore throat (4 [21.05%] of 19; 4 [26.67%] of 15), headache (2 [10.53%] of 19), fatigue (2 [10.53%] of 19), Diarrhea (1 [5.26%] of 19; 1 [6.67%] of 15) and Chest tightness (1 [5.26%] of 19). In comparison, no significant differences were observed between NCOVID-19 and NON-NCOVID-19 patients on these onsets
Rasmussen, SA. et al 23.02.2020 USA	Literature review	Sparse data of cases with pregnancy. Description of 18 case reports of patients with COVID-19, compared with 12 cases with SARS and 13 cases with MERS.	18 pregnant patients with COVID-19 infection	COVID-19 in pregnancy	SARS-CoV 2003 MERS-CoV 2012	Clinical symptoms, complications, fatality rate, faetal complications, in utero transmission	No evidence of in utero transmission 0% of newborn babies had COVID-19 No evidence of higher risk of gestational complications Screening COVID-19 before entering delivery room is recommended Isolation in case of respiratory symptoms

Conclusion evidence:**Main results:**

De pandemie van het Coronavirus COVID-19 (SARS-CoV-2) is door de overspoeling van de gezondheidszorg een groot probleem. Door de grote besmettelijkheid van het virus werd aangeraden telefonisch contact op te nemen met de huisarts bij vermoeden van een infectie door het ontwikkelen van symptomen. Een echte diagnose stellen zonder de patiënt gezien te hebben is niet mogelijk. Het telefonisch contact vormt een anamnestiche triage waarbij de juiste vragen moeten gesteld worden om een optimaal beeld te krijgen van de symptomatiek en de ernst van de infectie. Aan de hand van deze telefonisch anamnese moet de huisarts een beslissing maken of er verdere klinisch onderzoek, eventueel verder technisch onderzoek of een hospitalisatie nodig is.

Aan de hand van bovenstaande artikels tonen we de meest voorkomende symptomen, risicofactoren en belangrijke comorbiditeit die moeten geïmplementeerd worden in deze telefonische triage. Door het gewogen gemiddelde te nemen van de meest voorkomende symptomen in de verschillende studies komen we tot het volgende: koorts $>38,1^{\circ}\text{C}$ (94%), hoesten (70%), vermoeidheid en myalgie (57%) en sputum productie (28%). Andere voorkomende symptomen zijn hoofdpijn (12%), keelpijn (8%), diarree (4%) en misselijkheid en braken (4%). In enkele studies werd conjunctivitis ook vermeld als symptoom, maar dit is minder frequent. Contact met een gekende COVID-19 patiënt of met een zieke patiënt met griepachtige symptomen, maakt het vermoeden op COVID-19 groter. Hierbij moet er aandacht zijn voor bovengenoemde symptomen gedurende 1-14 dagen na het contact.

Belangrijke alarmtekens waarbij de patiënt zeker klinisch verder moet onderzocht worden en die kunnen wijzen op complicaties, zoals een pneumonie, zijn kortademigheid, tachypnee ($>24/\text{min}$), thoracale pijn en hemoptesis. Hoewel koorts hoger dan 39°C zeker niet bij elke ernstig zieke patiënt aanwezig is, moet men hierbij toch bedacht zijn op een ernstiger verloop, aangezien milde tot matig zieke patiënten slechts zelden koorts hoger dan 39°C hebben.

Belangrijk is om onderscheid te maken tussen patiënten die bellen en gekend zijn in de praktijk en patiënten die niet gekend zijn. Bij patiënten die niet gekend zijn is het belangrijk een volledige anamnese te doen met aandacht voor de leeftijd, volledige persoonlijke en familiale voorgeschiedenis, comorbiditeiten, eventuele zwangerschap en medicatiegebruik. Bij patiënten gekend in de huisartsenpraktijk is het belangrijk het medisch dossier te exploreren en rekening te houden met de risicofactoren in de besluitvorming.

Risicofactoren die zeker moeten gekend zijn, zijn de leeftijd (gemiddelde leeftijd van de geïnfecteerde patiënten in deze studies was 49,3 jaar, met als risicoleeftijd op complicaties >60 jaar, immuungecompromitteerde patiënten en comorbiditeit, met als belangrijkste hypertensie (17%), diabetes mellitus (8%), cardiovasculair lijden (5%), COPD (3%) en kanker (2%) (met name kankerpatiënten die in het heden geen immuuncompromitterende therapie krijgen). Men zag dat de aanwezigheid van één van deze comorbiditeiten een hoger risico is voor ernstige complicaties, hospitalisatie en overlijden. Ook bij zwangere patiënten moet men laagdrempelig handelen, ook al is er geen evidentie van een verhoogd risico op zwangerschapscomplicaties. Neonaten en kinderen zijn

geen risicogroepen aangezien ze meestal een milder verloop van de ziekte vertonen. Tevens bestaat er ook geen evidentie voor in utero transmissie bij zwangere vrouwen.

Extra aandacht gaat ook naar de mensen die tewerkgesteld zijn in de gezondheidszorg. Indien er bij deze patiënten een anamnestic vermoeden is van een COVID-19 infectie, is het aangewezen deze patiënten te testen met een PCR wisser. Dit kan door de huisarts indien deze over de juiste bescherming en materiaal beschikt, anders in het ziekenhuis.

Belangrijk om weten is dat de tijd tussen blootstelling aan het virus tot opkomen van de eerste symptomen, met name koorts en hoesten, 1-14 dagen duurt, met als gemiddelde 6,7 dagen. In deze incubatieperiode is de patiënt koortsvrij. Vanaf het opkomen van de eerste symptomen duurt het gemiddeld 5 dagen tot het verkwamen met een pneumonie en de klachten van kortademigheid, ook indien de patiënt afebril is (6% is koortsvrij). Deze deterioratie van de klachten gebeurt zeker niet bij elke patiënt met een COVID-19 infectie, maar men moet er wel bedacht op zijn. De gemiddelde duur tot hospitalisatie is 8 dagen na het opkomen van de eerste symptomen.

Aan de hand van deze anamnese, kan men de patiënt onderverdelen in:

- Milde gevallen met milde symptomen, geen vermoeden van pneumonie. Deze patiënten moeten niet klinisch gezien worden. Voorlichting met aandacht voor alarmsymptomen en advies tot isolatie in de thuisomgeving is voldoende.
- Milde symptomen bij personen die een verhoogd risico lopen. Deze patiënten moeten wel klinisch onderzocht worden.
- Matige gevallen met klachten als koorts, hoesten en kortademigheid, met vermoeden van een pneumonie. Deze patiënten moeten klinisch verder onderzocht worden.
- Ernstige gevallen met zware kortademigheid en tachypnee ($>30/\text{min}$), thoracale pijn en eventuele hemoptesis. Deze patiënten moeten urgent doorverwezen worden naar de spoedgevallen voor verdere investigatie.

Uit bovenstaande studies blijkt er een mortaliteitsrisico van 3% te zijn. We moeten echter in rekening brengen dat dit voornamelijk gaat over gehospitaliseerde patiënten die er erger aan toe zijn. De patiënten met milde symptomen die thuis blijven, werden hier niet mee in geïncordeerd.

Ten slotte beschreven sommige studies dat COVID-19 meer mannen treft, maar als we kijken naar alle geïncordeerde studies zien we dat 58% van de COVID-19 infecties mannen betreffen, wat niet zo een aanzienlijk groot verschil is met vrouwen.

Risks of bias:

Het grootste risico op bias in de geïncordeerde studies waren de eerder kleine steekproefgroottes. Deze studies komen allemaal uit China dit betekent dat we uitspraken moeten doen voor de Westerse populatie met studies die mensen met een Aziatische etniciteit bestuderen.

De studies betreffen allen gehospitaliseerde patiënten, wat het bijzonder moeilijk maakt om een uitspraak te doen over de ambulante patiënten met een vermoeden van COVID-19 die telefonisch contact zoeken met een huisarts.

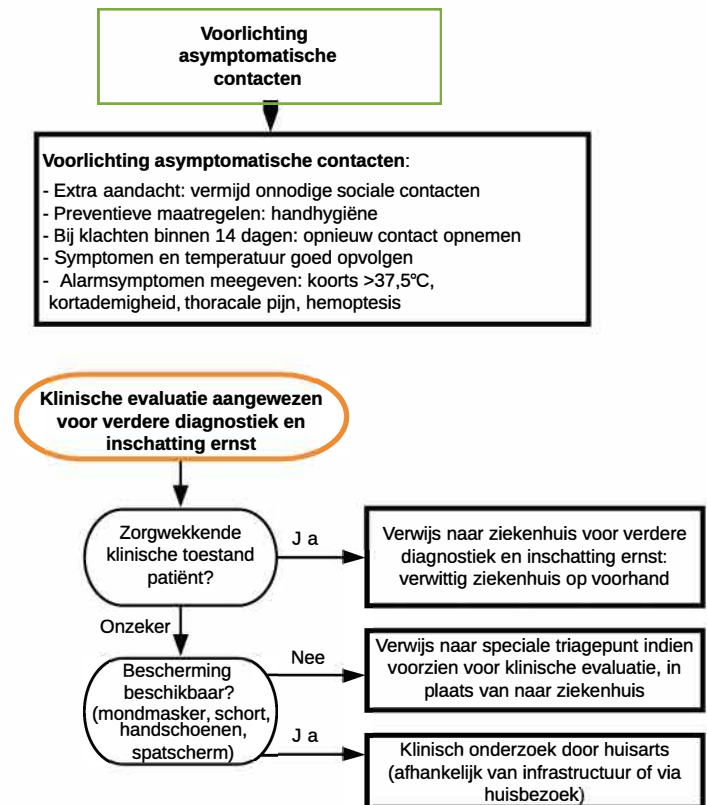
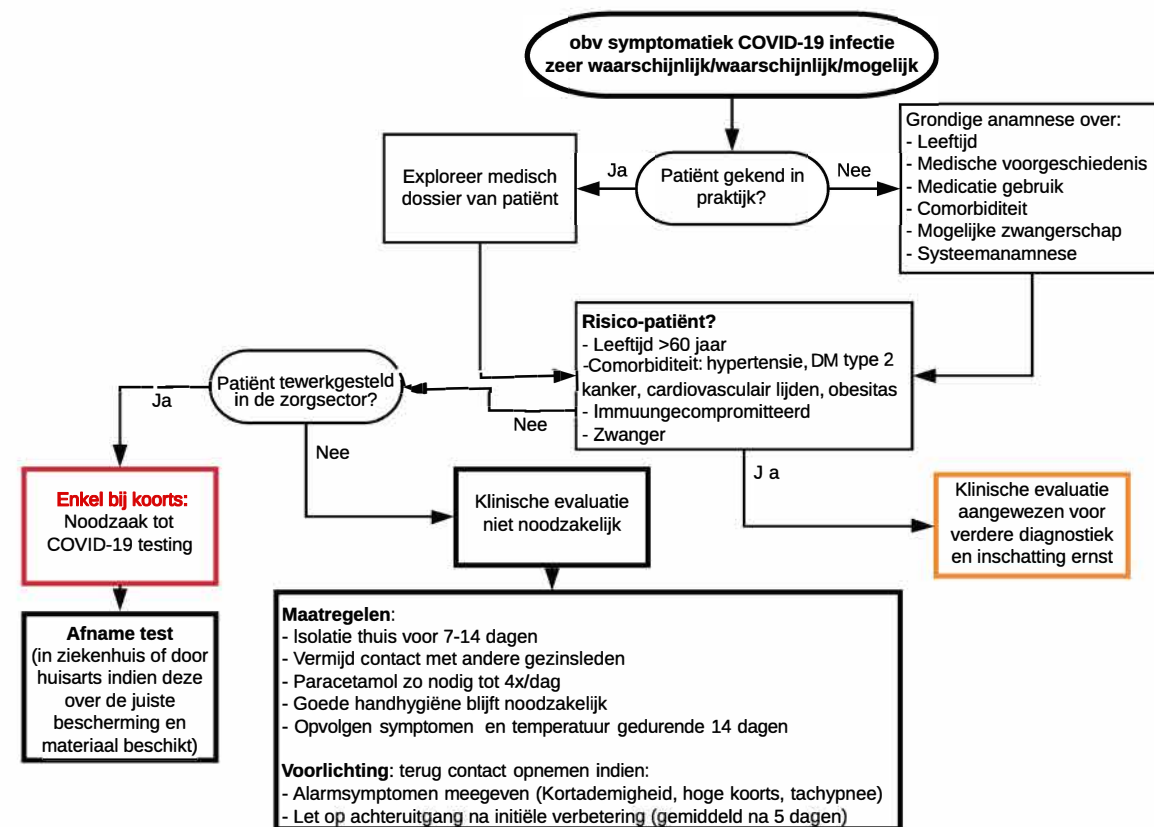
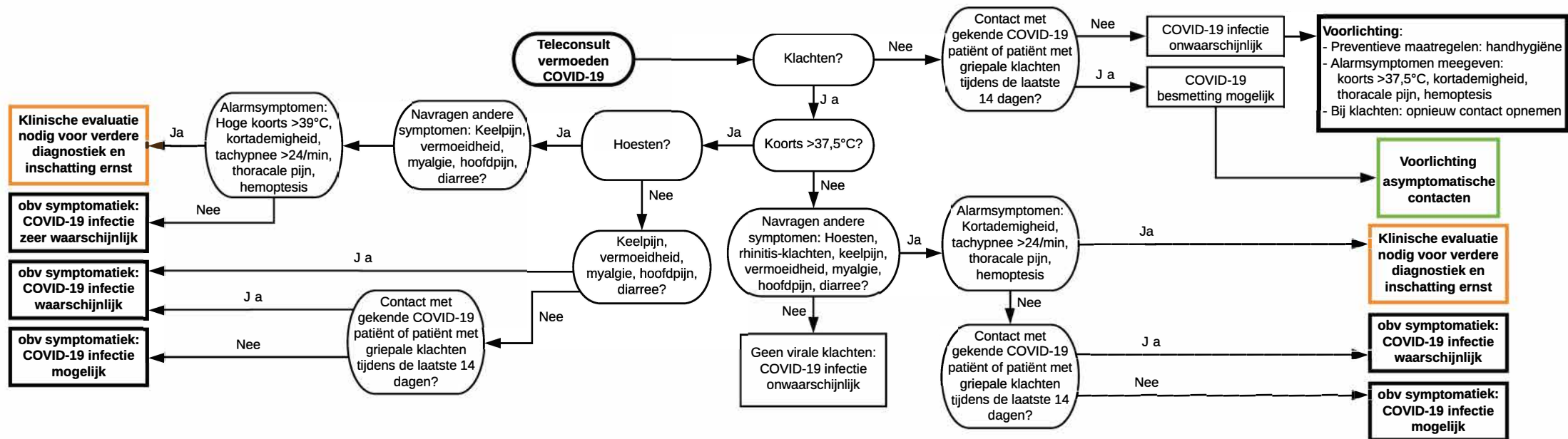
Heterogeneity: statistical and/or clinical

De statistische heterogeniteit in twee geïncloseerde systematische reviews was groot, waardoor dit het weer moeilijker maakt om een evidentie gebaseerd antwoord te geven op onze onderzoeksvraag.

Clinical bottom line:What is your response to the clinical scenario?

Aan de hand van enkele sterke meta-analyses, aangevuld met uitgebreide literatuur studies, maakte we een beslisboom om de taak van de telefonische triage gemakkelijker en meer gestructureerd te maken. De meest voorkomende symptomen, risico factoren en comorbiditeit werden met sterk bewijs beschreven. Echter is dit gebaseerd op artikels die gehospitaliseerde patiënten, die overigens een andere etniciteit hebben, beschreven en niet de ambulante patiënten die met hun initiële symptomen een eerste contact zoeken bij de huisarts. Hierover werd geen literatuur gevonden en we moeten concluderen dat deze beslisboom ontwikkeld is op een eerder lage kwaliteit van bewijs.

Telefonische triage bij vermoeden COVID-19 infectie



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