



Philippine COVID-19 Living Clinical Practice Guidelines

Institute of Clinical Epidemiology, National Institutes of Health, UP Manila

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EVIDENCE SUMMARY

Should saline nasal irrigation be used for the prevention of COVID-19?

Anna Angelica Macalalad-Josue, MD, FPCP, FPSEDM, Antonio Faltado, Jr, MD, FPCP, FPSEDM, Maria Teresa S. Tolosa, MD, D Clin Epi, FPDS

RECOMMENDATION

There is insufficient evidence to recommend the use of saline nasal irrigation (SNI) to prevent COVID-19 in healthy individuals. (*Very low quality of evidence*)

Consensus Issues

The panel did not provide a recommendation on SNI because of the very low quality of evidence on the use of nasal spray to prevent the common cold.

Key Findings

There are no direct studies assessing the benefit or harm of saline nasal irrigation use among healthy individuals as a preventive strategy for COVID-19. Only indirect evidence from an observational study using saline spray compared to no nasal spray in the prevention of common colds showed shorter duration of symptoms of nasal blockage and discharge but no difference in number of respiratory infections.

Introduction

Saline nasal irrigation (SNI) has been recommended as an additional non-pharmacological strategy to prevent upper respiratory tract infection [1–3]. It is an adjunctive practice that has been postulated to clean the nasal cavities by removing antigens, inflammatory mediators, and microorganisms such as bacteria and viruses [4]. Since it has been shown to work in other respiratory viruses, it is being recommended as a COVID-19 preventive strategy because of its availability and affordability that can help curb transmission of SARS-COV-2 [4–8].

Review Methods

We searched for articles that included healthy individuals or health care workers exposed to COVID-19 patients (P) and compared receiving nasal saline irrigation, whether isotonic or hypertonic, (I) versus placebo or minimum health standards (C) in the prevention of COVID-19 (O).

We performed a systematic literature search in online databases such as MEDLINE, CENTRAL, and Google Scholar. Additional searches in MedRxiv and clinicaltrials.gov were also done to look for articles awaiting publication and ongoing clinical trials, respectively. We used search terms



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such as “nasal saline irrigation,” “saline irrigation,” “nasal lavage,” “nasal rinse” and “COVID-19.” References from review articles were also manually searched for additional articles. We did not anticipate finding many randomized controlled trials; hence we did not set any limitation as to the type of study design during the search.

Results

The initial search from all the databases retrieved 203 references. We screened the title and abstracts of 29 (out of 203) references. After removal of duplicates, letters, narrative reviews, and studies not meeting the inclusion criteria, we retrieved three full text articles. These articles were Cochrane reviews that assessed the benefits and harms of antimicrobial mouthwash and/or antimicrobial nasal spray and compared it with either placebo or saline, hence did not also fulfill our inclusion criteria of saline nasal irrigation as intervention. After a comprehensive and systematic search, we found no direct studies assessing the effect of SNI in preventing COVID-19 in healthy individuals.

We found indirect evidence from a study that investigated the use of saline nasal spray in the prevention of the common cold among 60 military men in Sweden [2]. Participants were asked to do nasal spray with physiologic saline for 10 weeks, followed by a two-week wash out period after which they were again observed without nasal spraying. The number of days with nasal secretion and/or blocked nose were shorter (mean 6 vs 11 days) when using nasal spray with physiologic saline compared to no nasal spray. No differences were observed in the number of episodes of upper respiratory tract infection and total medicine and antibiotic consumption (days).

We found no studies that investigated adverse events of SNI as prevention of COVID-19. The Sweden study did not report outcomes on adverse events [8].

The limited indirect evidence was considered to be of very low certainty.

Recommendations from Other Groups

Clinical practice guidelines from WHO, IDSA, US NIH, UK NHS, or PSMID made no recommendation on the use of SNI in the prevention of COVID-19.

Research gaps

Since SNI is an affordable and locally available tool, randomized controlled trials on the use of SNI may be undertaken to determine its effectiveness and safety as a preventive tool for COVID-19 in healthy individuals, including health care workers exposed to COVID-19 or contacts of suspected or confirmed COVID-19 patients.

Ongoing Studies

There is one ongoing trial on the use of saline nasal irrigation, steam inhalation, and povidone iodine gargling among asymptomatic mild cases and their household contacts and its effect on household transmission of COVID-19. (Appendix 3)



References

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Appendix 1: Characteristics of Included Studies

Title/Author	Study design	Sample Size	Population	Intervention Group(s)	Control	Outcomes
Tano, 2004	Non-RCT Time interrupted series	N=60	Healthy individuals	Saline nasal spray	none	Number of episodes of upper respiratory tract infection

Appendix 2: GRADE Evidence Profile

Author(s):

Question: Saline nasal irrigation compared to minimum health standard for prevention of COVID-19

Setting:

Bibliography:

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	saline nasal irrigation	minimum health standard	Relative (95% CI)	Absolute (95% CI)		

number of episodes (common cold) (follow up: median 22 weeks)

1	observational studies	very serious	not serious	very serious	not serious	none	0.7	60	-	MD 0.3 higher (0 to 0)	⊕○○○ VERY LOW	
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CI: Confidence interval; MD: Mean difference

Appendix 3: Summary of Ongoing Study

Registration Number	Title	Population	Interventions	Outcomes
CTRI/2020/09/027687	Assessment of effect of steam inhalation, saline gargling and povidone iodine gargling on reduction of symptoms and prevention of spread of COVID 19	Asymptomatic mild cases of COVID-19 under home isolation and their household contacts	Steam inhalation, saline gargling (hypertonic solution) povidone iodine gargling	<ol style="list-style-type: none"> Reduction in severity of symptoms Early negativity of the RT PCR in nasopharyngeal swab among the intervention group when compared to the controls Reduction in transmission of infection among household members of COVID-19