

study, we did not deal with the causes of meningitis separately and only examined all the factors that cause meningitis; so we cannot comment on the effective role of dexamethasone in particular types of meningitis, for example, pneumococcal meningitis.

In the current study, glycerol was compared to placebo and no statistically significant difference was observed between these in reducing neurological complications. Not many studies have compared these two drugs but in two clinical trials on animals, it was indicated that there was no difference between glycerol and placebo in reducing neurological complications. Though in our study there was no significant difference between the two drugs according to RR: 0.97, 95% CI: 0.94-1.01%, it seems that glycerol is more effective than placebo in reducing neurological complications.

In this study, the comparison of glycerol to glycerol + dexamethasone as well as dexamethasone with glycerol + dexamethasone was performed and no significant difference was observed between the two groups. Till date, no clinical trial has been conducted in this field that could be compared to our results.

One of the features of our study was to compare the therapeutic use of dexamethasone and glycerol that has not yet been addressed in meta-analysis studies. We could not examine the causes of meningitis separately because this separation was not addressed in most studies. Another limitation of our study was the lack of access to non-English articles although it did not seem that there was a study in this field in another language.

CONCLUSIONS

Due to the fact that the effect of glycerol is not less effective than dexamethasone in preventing neurological complications of bacterial meningitis, the ease of prescription, lower cost, and lower complications, it is suggested that oral glycerol be used instead of intravenous dexamethasone in reducing neurological complications. However, further studies should be done by focusing on the complications of these two drugs and their effectiveness in reducing neurological complications so that their safe administration is ensured in addition to their effectiveness.

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Conflicts of interest

There are no conflicts of interest.

AUTHORS' CONTRIBUTIONS

SV contributed to the original idea and protocol, conception of the work, conduct of the study, revision of the draft, approval of the final version of the manuscript, and agreed with regard to all aspects of the work. FM contributed to the conception of the work, conduct of the study, revision of the draft, approval of the final version of the manuscript, and agreed with regard to all aspects of the work. BS contributed to the conception of the work, conduct of the study, revision of the draft, approval of the final version of the manuscript, and agreed with regard to all aspects of the work. KGh contributed to the conception of the work, conduct of the study, revision of the draft, approval of the final version of the manuscript, and agreed with regard to all aspects of the work. ET and MA contributed to the conception of the work, conduct of the study, revision of the draft, approval of the final version of the manuscript, and agreed with regard to all aspects of the work. MR contributed in the design of the work, performance of the analysis, revision of the draft, approval of the final version of the manuscript, and agreed with regard to all aspects of the work. FN contributed to the the design of the work, performance of the analysis, writing and editing of this manuscript, revision of the draft, approval of the final version of the manuscript, and agreed with regard to all aspects of the work.

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