

Medicinal mushrooms:

A review of scientific evidence from systematic reviews and meta-analysis

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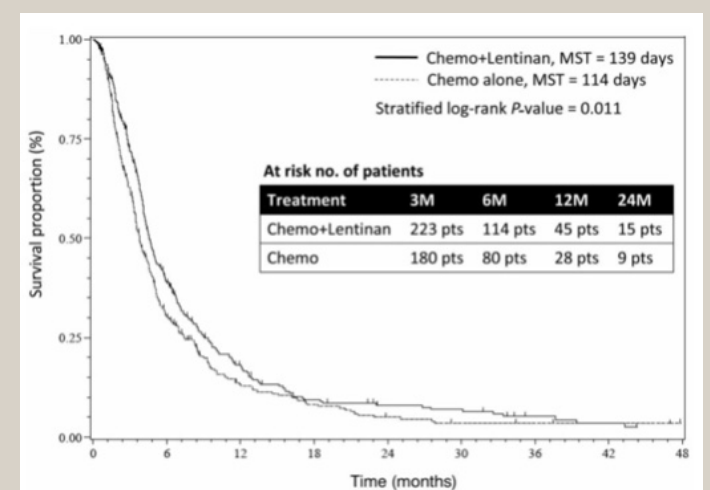
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Background: There has been a significant increase in the use of mushrooms for medicinal purposes. The potential role that medical mushrooms can have as a complementary therapy alongside conventional medicine is of wide range interest. **Objective:** To review the best evidence available at present about the clinical effects medicinal mushrooms can have, assessing both objective and subjective benefits.

Methods: A systematic bibliographic reach was carried out including only the highest level of evidence as limited to systematic reviews and meta-analysis published up to October 2018, with a total of 21 key-words being searched.



Results: for *Ganoderma Lucidum* 2 systematic reviews from the Cochrane Library are available. In cancer patients, a metaanalysis of 5 RCTs showed that patients who had been given *G. lucidum* alongside with chemo/radiotherapy were more likely to respond positively compared to chemo/radiotherapy alone (RR1.50; 95%CI:0.90-2.51, P=0.02). In cardiovascular patients, evidence from a small number of RCTs does not support the use of *G. lucidum* for treatment of cardiovascular risk factors. Regarding *Coriolus Versicolor*, a meta-analysis on survival in cancer patients from 13 RCT, showed a 9% absolute reduction in 5-year mortality, in addition to chemo/radio-therapy. An individual patient based meta-analysis of *Lentinula edodes* recurrent/inoperable gastric cancer showed an increase global survival rate (RR 0.80, 95% CI 0.68-0.95). *Cordyceps Sinensis* and *Shiitake* amongst other species could reduce toxicity of chemotherapy and radiotherapy. For other mushrooms such as *Agaricus Blazei* or *Hericium erinaceus* limited data were available.

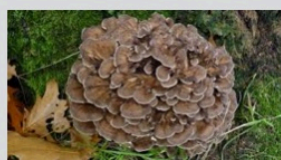


Discussion: This review only included systematic reviews and meta-analysis limiting the overall evidence. High quality evidence from non-patentable medicines such as medicinal mushrooms is hard to obtain.

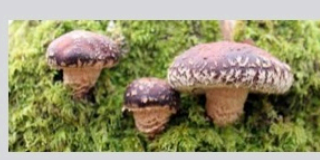
Conclusions: Although more research is required, the role of medicinal mushrooms as complementary therapy seems to be promising. Evidence coming from meta-analysis of RCTs is available. However, more in depth and better quality research is required.



Ganoderma lucidum



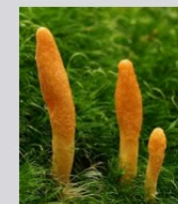
Grifola frondosa



Lentinula erodes



Agaricus blazei



Cordyceps sinensis



Coriolus versicolor

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