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What strategies/interventions  
have been described in literature  
aiming to prepare students  
for uncertainty?

24/04/17 EAPH Conference - Baptiste Motte (France)

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# MEDICAL UNCERTAINTY



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- ▶ **Usual causes:**
  - ▶ Limits in current knowledge
  - ▶ Practitioner's own limits, knowledge and experience
  - ▶ Personal significance of a particular risk
  - ▶ Ignorance of a relevant information
- ▶ **A specific cause for general practice:**
  - ▶ Patients present undefined and unorganized problems at early stage

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Bendelow G, Carpenter M, Vautier C, Williams S. Gender, Health and Healing: The Public/Private Divide. Routledge; 2012. 282 p.

Politi MC, Han PKJ, Col NF. Communicating the Uncertainty of Harms and Benefits of Medical Interventions. Med Decis Making. 14 sept 2007;27(5):681-95.

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- ▶ Intolerance to uncertainty or mismanaging it can cause:
  - ▶ Reduced quality and increased cost of care
  - ▶ Low quality of shared decision making
  - ▶ Impact on physician's practice (anxiety, burn-out risk factor, career choice, attitude toward the underserved)

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# RESEARCH QUESTION



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# METHOD



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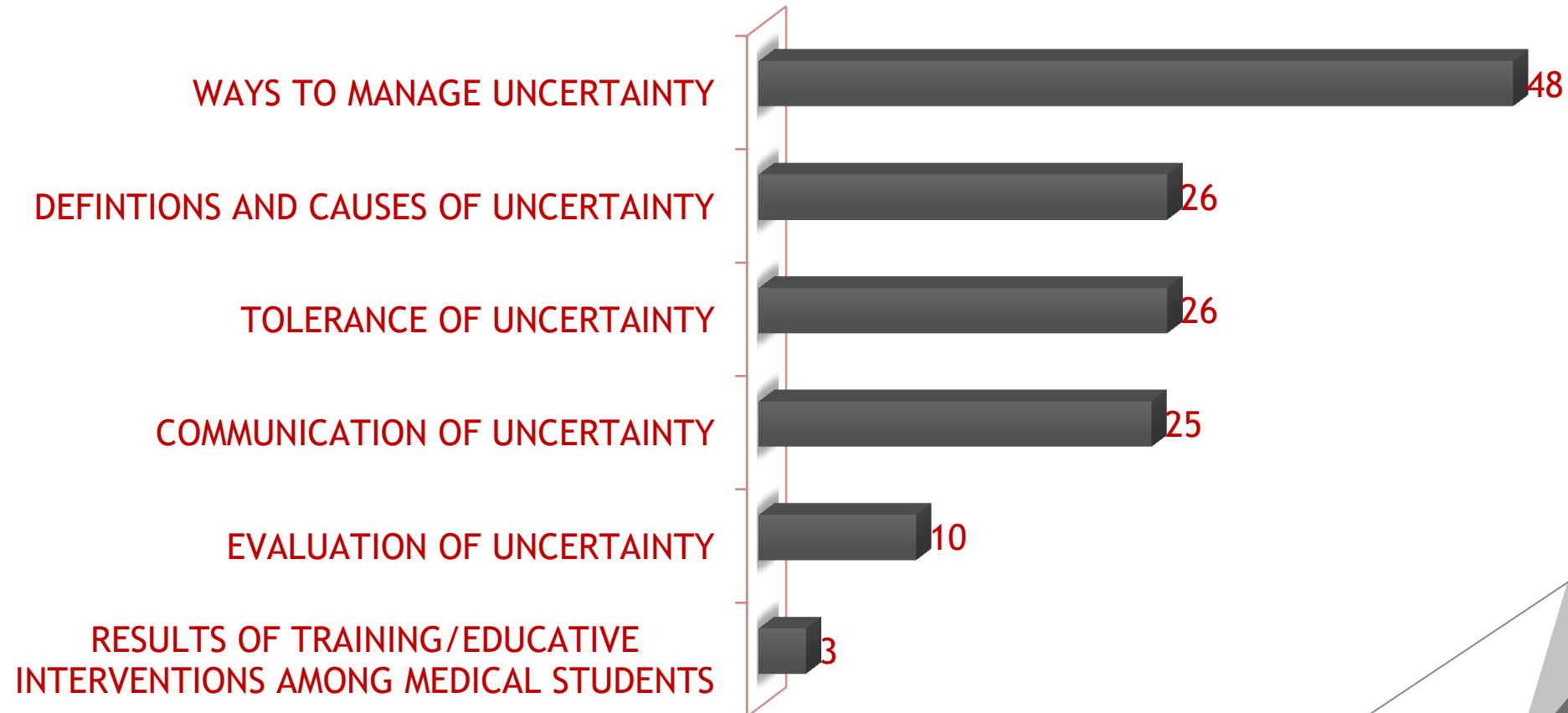
- ▶ Unsystematic review of literature
- ▶ In PUBMED and GOOGLE SCHOLAR
- ▶ On various issues, published between 1972 and january 2016, related to uncertainty in medical education:
  - ▶ Definition and causes of uncertainty
  - ▶ Communication of uncertainty
  - ▶ Tolerance of uncertainty
  - ▶ Managing uncertainty
  - ▶ Evaluating uncertainty
  - ▶ Recommendations and effective teaching of uncertainty

# RESULTS

95 papers retained:



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# RESULTS OF TRAINING/EDUCATIVE INTERVENTIONS AMONG MEDICAL STUDENTS: 3 papers



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- ▶ 1. Schneider A, Joos S, Biessecker K, Laux G, Ludt S, Szecsenyi J. [An evidence-based seminar changes cognition rather than medical students' personal attitudes towards diagnostic uncertainty in a primary care setting]. *Z Für Ärztl Fortbild Qual.* 2007;101(2):119-23.
- ▶ 2. Nevalainen MK, Mantyranta T, Pitkala KH. Facing uncertainty as a medical student—A qualitative study of their reflective learning diaries and writings on specific themes during the first clinical year. *Patient Educ Couns.* févr 2010;78(2):218-23.
- ▶ 3. Jouneau S, Luraine R, Desrues B. Significance of script concordance tests to assess reasoning and knowledge organization among 4th year medical school students in France. *Pédagogie Médicale.* nov 2012;13(4):225-32.

# DISCUSSION



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- ▶ **Uncertainty: a term too broad... and too specific**



# CONCLUSION

## KEY MESSAGES



- ▶ There are few strategies/interventions described in literature aiming to prepare students for uncertainty
- ▶ We need evidences on this pedagogic issue because of
  - ▶ Consequences of mismanaging it or intolerance to it
  - ▶ Shared decision making is a growing movement. Physicians will have to communicate more their uncertainty than they do.
- ▶ A rigorous and evaluated intervention to prepare students to uncertainty would demand a clear choice of the kind of uncertainty apprehended and an adequate pedagogical strategy.



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**Thank you for your attention!**

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