

# Self-Perception of Competencies and Need of Training in Evidence Based Medicine among Medical Laboratory Professionals Worldwide



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## ABSTRACT

**Background:** To investigate the perceptions of medical laboratory professionals worldwide regarding their competencies and needs in Evidence Based Medicine (EBM).

**Methods:** A self-completed questionnaire was designed by the Evidence-Based Laboratory Medicine Committee (EBLM) of the Spanish Society of Laboratory Medicine (SEQC-ML) and adapted to English by the EBLM Committee of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC). The questionnaire consisted of six sections (A. Sociodemographic Data; B. Training in EBM; C. Access to EBM Material; D. Perceptions about Self-Competency; E. Preference for Training and F. Comments and Suggestions) and 36 variables. The variables were scored on a scale of 1 to 10. The survey was administered via SurveyMonkey® and mailed in April 2017 to all Presidents and Representatives of IFCC National Societies. Data analysis was performed using IBM SPSS. The study was performed in accordance with the Ethics Research Committee.

**Results:** 355 IFCC members responded to the survey. The mean age of respondents was 48 years, the mean professional experience was 21 years and 53% were female. 54% of respondents were Europeans, 25% Americans, 20% Asians, 2% Africans and 1% Australians, 80% reported to have some basic training, 16% advanced training and 3% did not respond.  $\alpha$ -Cronbach's coefficient=0.860. Medical laboratory professionals indicated that they had a low level of satisfaction with their current knowledge of EBM (average 4.62 points). There is a great interest in learning how to access Evidence Based Clinical Practice Guidelines (average 8.14 points) and in receiving further training on EBM (average 7.77 points). Factors that showed differences in responses were gender, formal training in EBM, years of experience and age. Men were more satisfied about their EBM knowledge than women (5.21 points vs 4.45 points;  $p=0.004$ ) and women were more interested in improving their knowledge (8.26 points vs 7.75 points;  $p=0.034$ )

**Conclusion:** Medical laboratory professionals were very interested in EBM, especially in accessing Clinical Practice Guidelines and other EBLM materials. They also considered EBM is necessary in their daily practice. The findings of this survey will help to plan future training on EBM for laboratory professionals..

## INTRODUCTION

### Evidence-Based Medicine (EBM)

#### Laboratory Medicine

using the best evidence to guide clinical decision making in the care of patients

specializes in the performance, reporting and interpretation of clinical laboratory tests used for screening, diagnosis, prognosis and monitoring of patient's health & disease

#### Evidence-Based Laboratory Medicine (EBLM)

using the best evidence in the utilization of laboratory tests to assist clinical decision making in order to improve care and outcomes of individual patients and promote effective use of healthcare resources

Sackett DL et al. BMJ. 1996; 312:71-2.  
Horvath AR. Clin Biochem Rev. 2013 ; 34(2): 47-60.

## AIM

to evaluate the perceived competencies and needs regarding the practice of EBM/EBLM among medical laboratory professionals

## METHODS

➤ A self-completed questionnaire was designed by the EBLM Committee of the Spanish Society of Laboratory Medicine (SEQC-ML) and adapted to English by the EBLM Committee of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC).

➤ The questionnaire consisted of six (6) sections with a total of thirty-six (36) questions

- A. Sociodemographic Data
- B. Training in EBM
- C. Access to EBM Material (last year)
- D. Perceptions about Self-Competency
- E. Interest in receiving continuing education
- F. Comments and Suggestions.

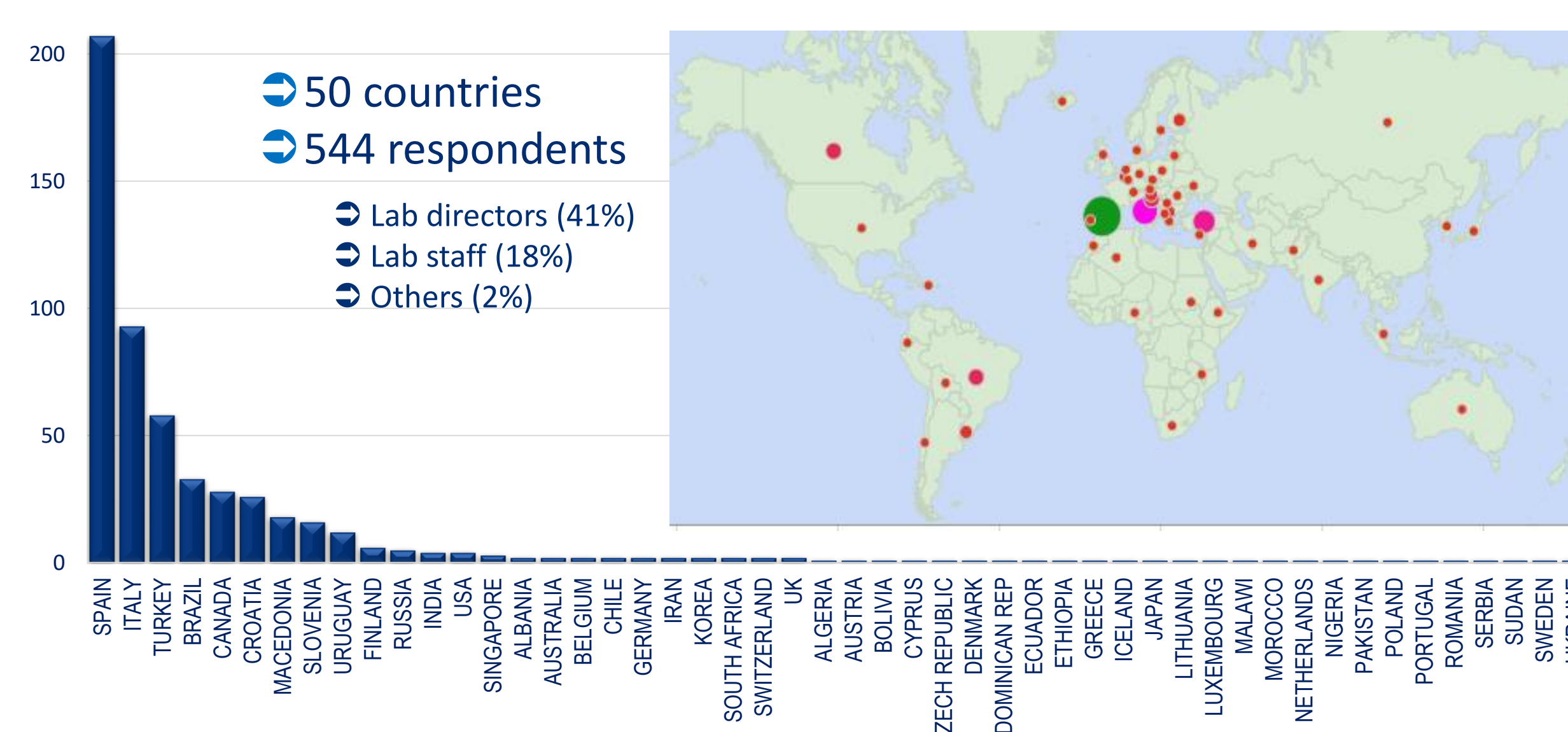
➤ The questionnaire was administered via SurveyMonkey® and mailed to all Presidents and Representatives of IFCC National Societies.

➤ Variables were scored on a scale of 1 to 10. Data analysis was performed using IBM SPSS.

➤ The study was performed in accordance with the Ethics Research Committee.

## RESULTS

Figure 1. Survey participation



## RESULTS

Figure 2. Sociodemographic Data

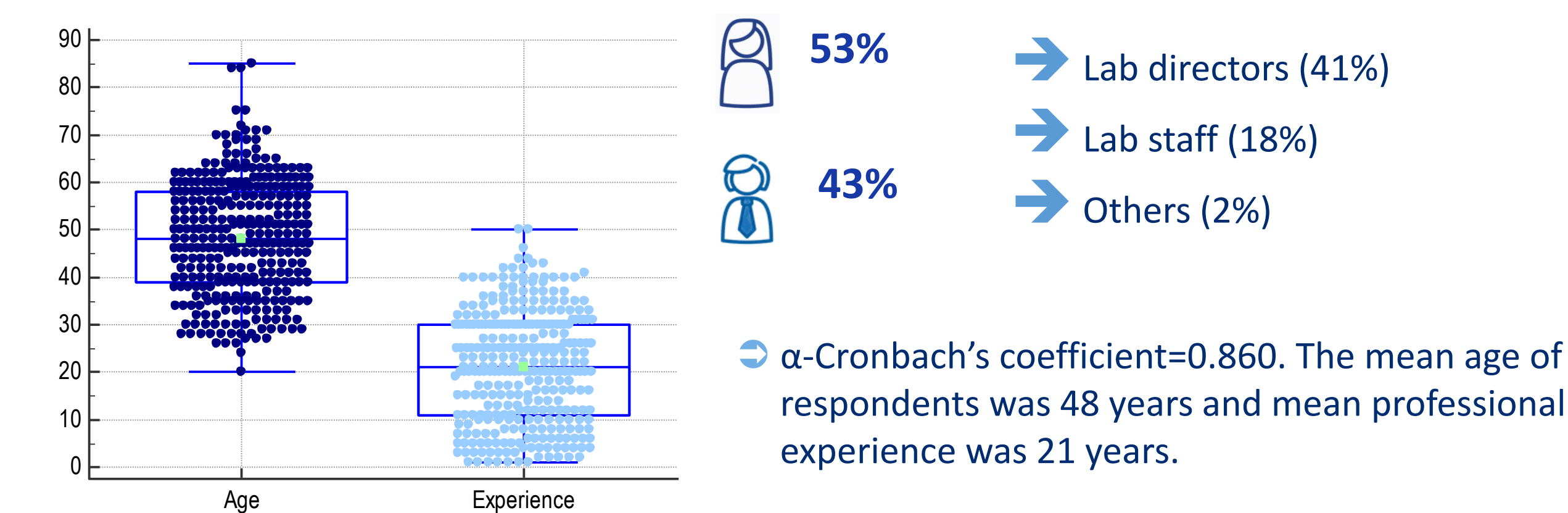


Figure 3. Training in EBM

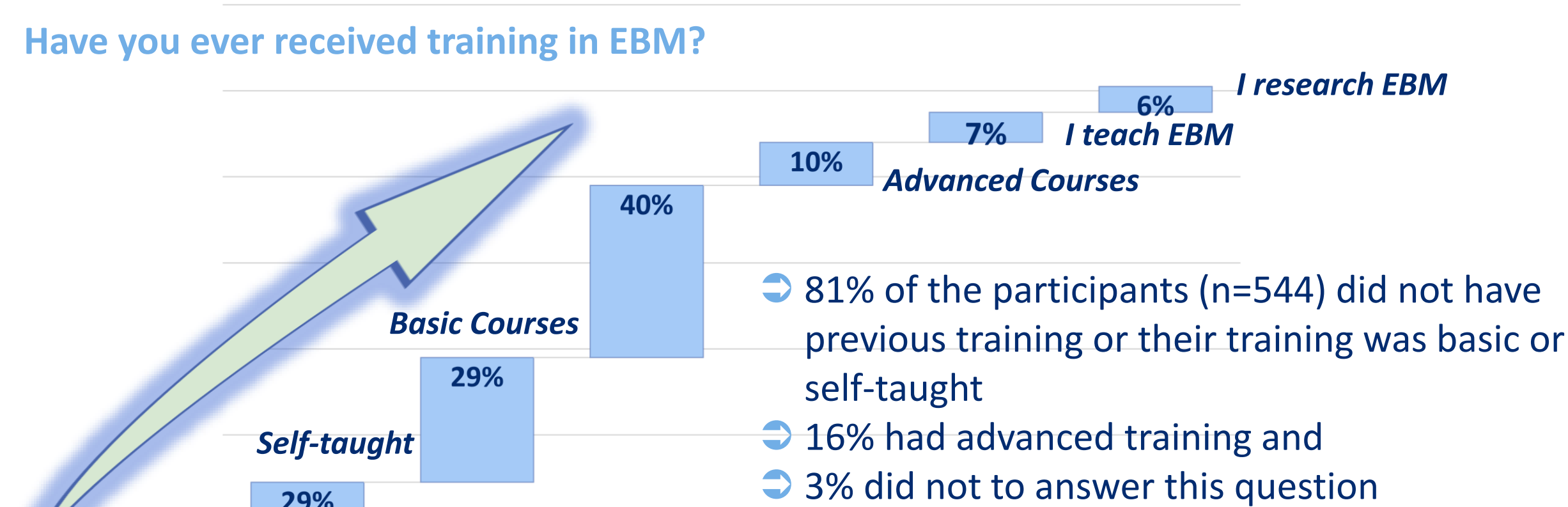
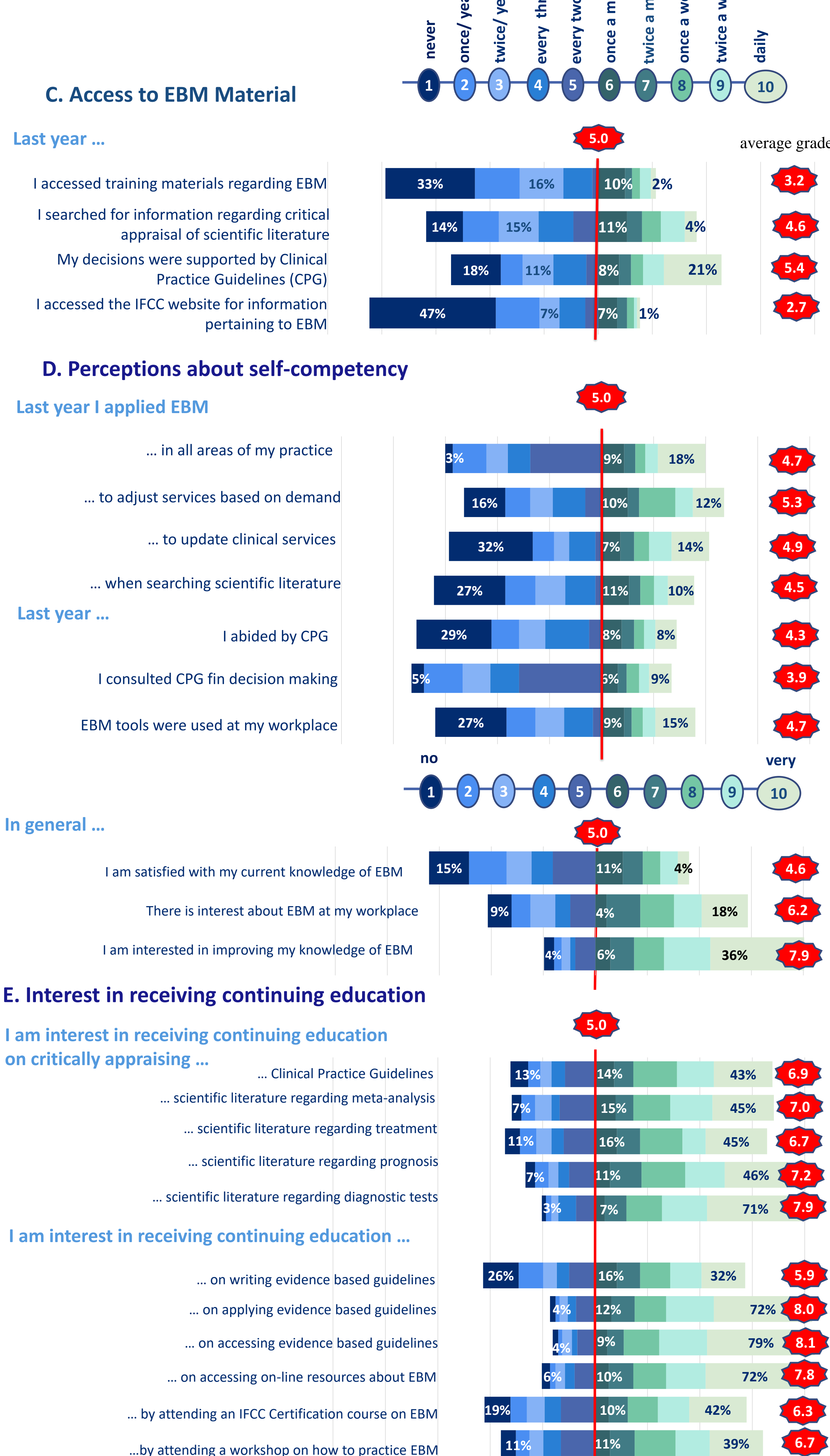


Figure 4. Responses to sections C, D and E



## RESULTS

Figure 5. Respondents' attitude towards EBM and previous training

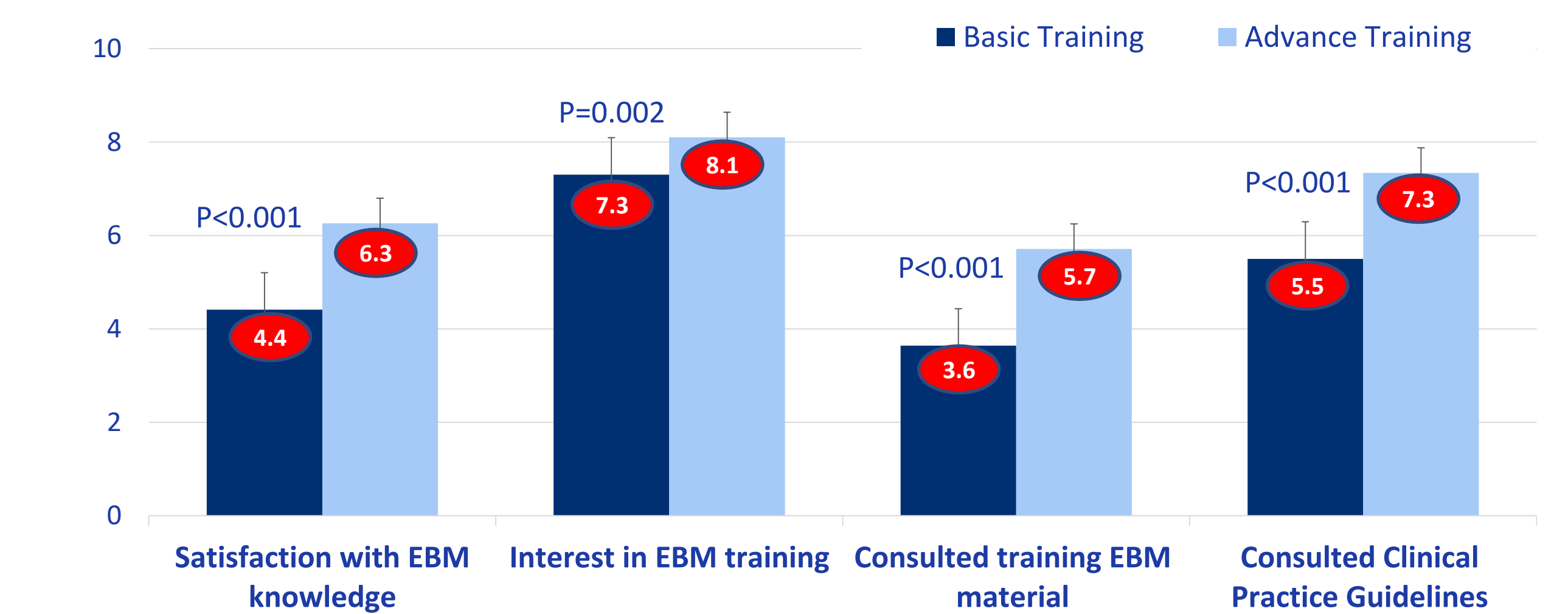


Figure 6. Respondents' attitude towards EBM and gender

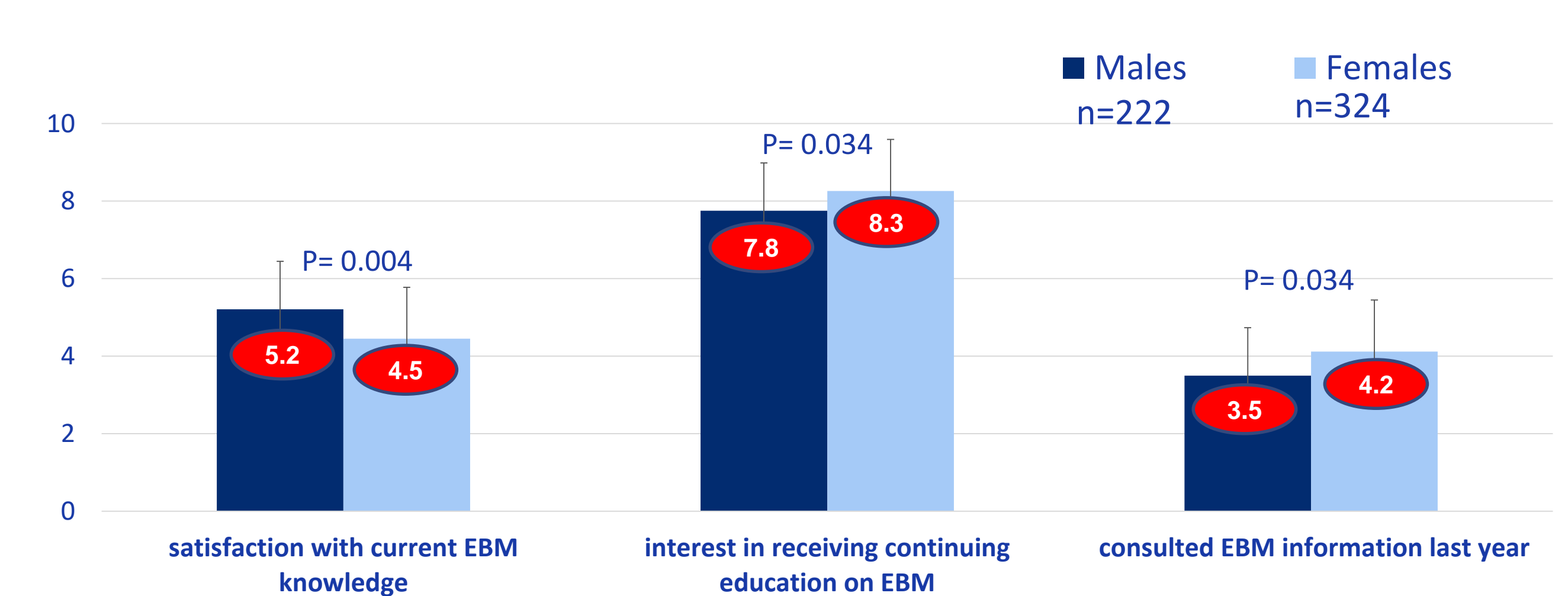
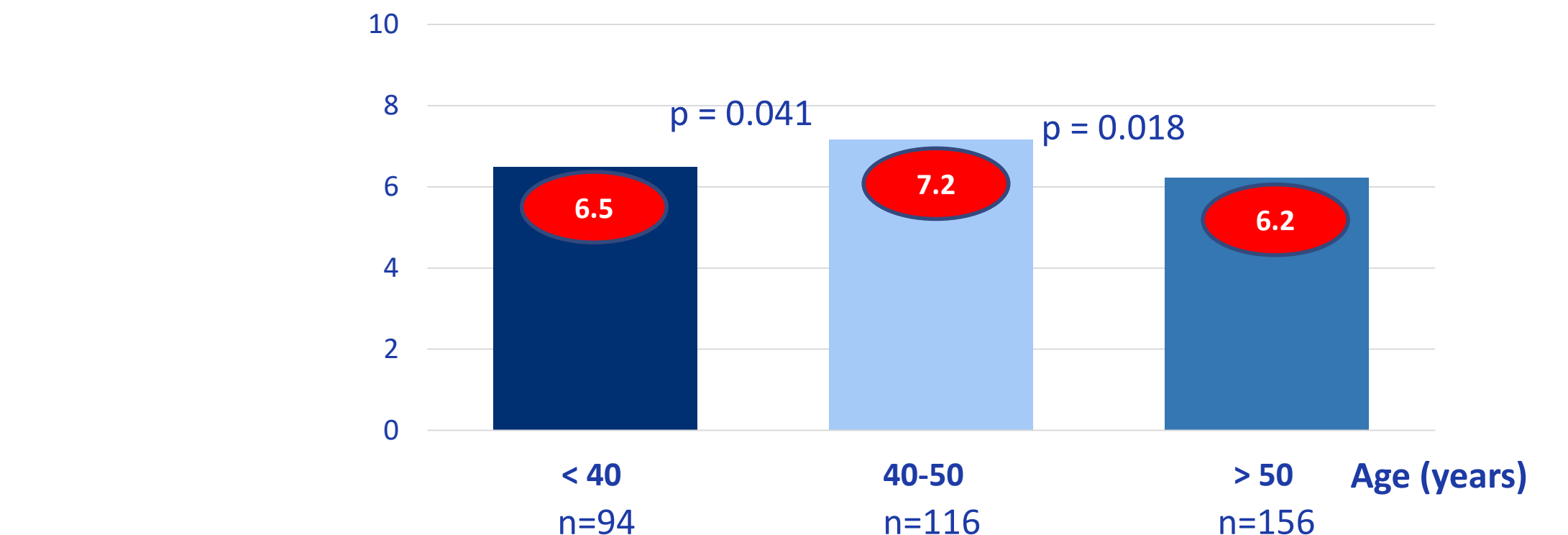


Figure 7. Respondents' attitude towards EBM and age



## RESULTS SUMMARY

- There is a low level of satisfaction with current knowledge of EBM (4.6 average grade).
- There is a great interest in receiving further training on EBM (7.9 average grade) and in learning how to access Evidence Based Clinical Practice Guidelines (8.1 average grade).
- Factors that demonstrated differences in responses were formal training in EBM, gender, years of experience and age.
  - Respondents that have received advance training are more satisfied, used the available resources more often and are also more interested in receiving further training
  - Men showed greater satisfaction than women with their EBM knowledge and women expressed more interest in receiving further education.

## CONCLUSIONS

Laboratory professionals were very interested in receiving education on EBM, especially in access to CPGs and other EBLM materials. They also considered EBLM as necessary in their daily practice, even with multiple difficulties implicated while applying it. The findings of this survey will help to plan future training on EBLM for laboratory professionals.

## ACKNOWLEDGEMENTS

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