

Investigation of French osteopathic teachers' skills and uses of Evidence-Based-Practice and models: a national cross-sectional survey

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Background:

In the critical transition that osteopathy is going through, trying to link traditional models, theories, practices with insights of research and an ever-growing demand of practitioners themselves, teachers in osteopathy are pushed around (1), trying to find the best way to make co-exist traditional and modern models, their personal skills and internal educational policies (2).

If literature begins to be substantial concerning osteopaths' attitudes, skills and utilisation of Evidence-Based Practice (EBP), with the use of EBASE survey (3–6), a very few studies were located in France (7) and concerned the specific population of osteopath who teach, (only one study not yet published at our knowledge (8)). Despite this lack of literature, all studies reported a high interest of the respondents for EBP and a moderate self-declared skill in it. In the perspectives are mentioned the competencies improvement and implementation in educational program.

Education in osteopathy stay divided like the profession and is looking for consensus. It may explain why the "Five Osteopathic models" promoted by the WHO report (9), seemed to be adopt by training institutions, but no study that we know observe the actual use of these model in education and consultation, while they are subject of many articles for several years (10–13) confronting them with EBP.

The purpose of this study was to identify by a survey who are French osteopaths who teach, their level of skill and use of EBP and/or osteopathic models in their own practice and in education, and how do they do it.

Methods:

An online survey was designed with 17 closed-ended questions and 4 open-ended questions. After generating an initial draft, content and face validity was ascertained by a group of 6 experts (Scale Content Validity Ratio of 0.63 and Scale Content Validity Index of 0.67). Adjustments were made based on their comments to improve the questionnaire and its validity above 0.7.

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The questionnaire was anonymous and respected European security data policy. No personal data was acquired. Information was given to the participant in the first page of the survey and their agreement is required before starting to fill out the questionnaire.

The survey was administrated by Google form, link sending directly to French approved osteopathy schools and broadcasted through social networks from October 20, 2023, to December 3, 2023.

The target population was the French osteopaths who also teach in school of osteopathy. A necessary sample size of 148 respondents was calculated for an estimated population of 1500 (confidence level 80% - risk of error 5%).

The questionnaire was designed so that it cannot be completed if some answers were missing, to avoid missing data. No observations were deleted.

All collected data was secured on the author's personal computer and was fingerprint and password protected.

All design-based analysis were performed using Microsoft Excel and XLSTAT software. Data were described using frequency distributions and percentages. Association between ordinal variables were examined by Kendal tau. Association between nominal variables were examined by Khi² test or a Fisher test, intensity of the relation between variables were assessed using Cramer's V. Associations were interpreted as weak (0.10–0.29), moderate (0.30–0.49) or strong (>0.50). The level of significance was set at $p < 0.05$.

Results:

160 French osteopaths and teachers answered to this survey. Most of the responder were between 22 and 45 years old (38.8% between 22 to 35 years, the same between 36 to 45 years), 15.6% were between 46 and 55 years old and 6.9% are older than 55 years. They have been teaching for less than 5 years for 33.1% of them, between 5 to 10 years for 28.7%, between 10 to 20 years for 29.4% and more than 20 years for 8.8%. They were intervening in 15 different French schools of osteopathy. Concerning their field of intervention, 75% of them are clinical supervisors, 61.9% intervene in practical osteopathic field, 48.1% are thesis director, lecturer, or defence jury. Between 21.3 to 28.1% were concerned about the teaching of fundamental sciences (like physiology or anatomy), osteopathic reasoning or competencies. Less than 15% were concerned about semiology or methodology teaching.

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Table 1: EBP self-declared level of knowledge, use in osteopathy practice and teaching (% of total respondents)

| EBP | Not concerned | Aware | Qualified | Proficiency | Expert |
|--------------------|---------------|-------|-----------|-------------|--------|
| Level of knowledge | 11.3 | 28.7 | 31.9 | 22.5 | 5.6 |
| Use in practice | 5.6 | 25 | 38.1 | 25.6 | 5.6 |
| Use in teaching | 4.4 | 18.1 | 42.5 | 30 | 5 |

Among the respondents, more than 50% acquired knowledge on the term of EBP by personal research or by discussing with colleagues. Less than 20% heard it in their initial osteopathy cursus.

Table 2: WHO models self-declared level of knowledge, use in osteopathy practice and teaching (% of total respondents)

| Models | Not concerned | Aware | Qualified | Proficiency | Expert |
|--------------------|---------------|-------|-----------|-------------|--------|
| Level of knowledge | 2.5 | 12.5 | 43.8 | 34.4 | 6.9 |
| Use in practice | 6.3 | 14.4 | 41.9 | 32.5 | 5 |
| Use in teaching | 4.4 | 16.9 | 38.7 | 33.1 | 6.9 |

More than 50% of the respondents declared that could identify one or more "resource" person with a high degree of expertise in EBP and in models, whereas 20,6% declared none.

Table 3: Respondents opinion on consistency and compatibility of EBP with historic principles and models (% of total respondents)

| Consistency and compatibility of EBP with | Not agree at all | Not really agree | Somewhat agree | Completely agree |
|---|------------------|------------------|----------------|------------------|
| Historic principles | 3.1 | 39.4 | 54.4 | 13.1 |
| Models | 1.3 | 30 | 63.1 | 5.6 |

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Table 4: Association and intensity of the relation between variables (from very light grey: no association to dark grey: association with strong intensity)

| | Age | Diploma | Teaching seniority | Consultation activity | EBP knowledge | EBP use in practice | EBP use in teaching | Opinion: compatibility EBP/historic principles | Models knowledge | Models use in practice | Models use in teaching | Opinion: consistency EBP/models |
|--|------------|------------|--------------------|-----------------------|---------------|---------------------|---------------------|--|------------------|------------------------|------------------------|---------------------------------|
| Age | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| Diploma | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| Teaching seniority | Dark Grey | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| Consultation activity | Light Grey | Light Grey | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| EBP knowledge | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| EBP use in practice | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| EBP use in teaching | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| Opinion: compatibility historic principles/EBP | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| Models knowledge | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey | Light Grey | Light Grey | Light Grey | Light Grey |
| Models use in practice | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey | Dark Grey | Light Grey | Light Grey |
| Models use in teaching | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey | Light Grey |
| Opinion: consistency EBP/models | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Light Grey | Dark Grey |

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Conclusion:

Respondents of the survey match to usual respondents of online survey addressed to osteopaths by age, self-employed activity and moderate self-assessed skill in EBP (7,14). Age, teaching seniority or diploma doesn't modulate their skills and uses of EBP and models except for diploma which demonstrates a moderate relationship with items related to EBP. Logically, those who believes they have solid skills in EBP and/or models, used it in their practice and their teaching. If an association existed between knowledge and uses of EBP and Models, it's a low intensity relationship. Surprisingly, skills and uses in EBP and Models seems to not be related to respondents' opinion on compatibility and consistency between these two frameworks.

Like every study, this has some bias like selection bias or Dunning Kruger effect.

More in-depth analyses will be provided on present data: for example on the impact of the teaching's field on teacher's knowledge and opinion - and especially on the verbatim of open-end questions, which can bring elements to the actual work of how to integrate sciences new insight in a traditional education (15-17)

Furthermore, next studies should questions on competencies attended from osteopaths who teach, and continuing education provided to them like it could be done in the health care system (18).

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