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# Author's Accepted Manuscript

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**Equal access for all? Access to medical information for European psychiatric trainees**

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**Abstract**

Access to medical information is important as lifelong scientific learning is in close relation with a better career satisfaction in psychiatry. This survey aimed to investigate how medical information sources are being used among members of the European Federation of Psychiatric Trainees. Eighty-three psychiatric trainees completed our questionnaire. A significant variation was found, and information availability levels were associated with training duration and average income. The most available sources were books and websites, but the most preferred ones were scientific journals. Our findings suggest that further steps should be taken to provide an equal access to medical information across Europe.

**Keywords** Psychiatry; Training; Medical information

**1. Introduction**

Access to medical information (MI) is very important for trainees, as lifelong learning and scientific activity seems to be in close relation with a better career satisfaction in psychiatry (Afonso et al 2014). A recent review shows increasing use of online media among physicians, but colleagues' consultation is still the most preferred source of medical information (Clarke et al 2013). Printed information sources were reported as preferred in developing countries (Gavino et al 2013), while electronic media are more popular in developed countries (Yonger 2010). Barriers to accessibility of MI described were: lack of time, no access to electronic sources, poor searching skills, and costs or overload of information (Younger 2010).

Early research implies the preference of colleagues' advice, journals and books among young psychiatrists (Bowden and Bowden 1971), while it appears that electronic media progressively gain popularity over traditional sources among mental health professionals (Stone and Sharpe 2003; Volpe et al. 2012).

However, we lack contemporary data to verify this current tendency towards utilization of online medical resources in the digital age. The European Union of Medical Specialists (UEMS) and the European Federation of Psychiatric Trainees (EFPT) have identified access to MI as one of the key elements for high-quality education in psychiatry (UEMS 2009, EFPT 2013). To provide equally sufficient access to MI for all trainees – a prerequisite for standardizing psychiatric training throughout Europe – one should first have an understanding of recent trends in access to information among European psychiatric trainees. Discerning the possible differences across countries may also be valuable in the

harmonization process that has undergone major changes over the past decades, with the disparities still ongoing (Riese et al 2013).

Given this background, this study aimed to investigate: (1) how psychiatric trainees use sources of MI, (2) what the main obstacles are, and (3) how these aspects are related to differences across Europe.

## 2. Methods

The areas to be covered by the questionnaire were identified during a focus group session with the members of the EFPT Research Working Group, comprising trainees from 13 countries. Subsequently, an English-language questionnaire was compiled, piloted among these participants and adjusted accordingly.

The questionnaire consisted of 7 items rated on a dichotomous scale (present/not present) that identified access to different sources of MI, the possible obstacles hampering access to MI, the presence of guidelines for access to MI, and their perceived advocacy. In addition, participants were asked to rate the overall satisfaction with the access to information, and the ability of the available information to cover adequately trainees' professional needs. The satisfaction was rated on a 5-point Likert scale from 1 (very below the needs) to 5 (very above the needs). The questionnaire also assessed the preference of sources of MI with 5-point Likert scale (1 = least preferred to 5 = most preferred). The questionnaire was distributed to all the 32 national delegations representing their national psychiatric trainee associations in the EFPT. The participants were asked to provide the collective input of their trainees' association and to submit one questionnaire per country. The training durations per country were obtained from the annual EFPT country reports (EFPT 2013). Average monthly incomes per country were accessed through the World Bank report (World Bank 2011).

Data were analyzed with Mann-Whitney U-test, Kruskal-Wallis test, Spearman's rank correlation, and  $\chi^2$  test of independence with continuity correction according to Yates. Statistical significance was set at  $p < 0.05$ . Analyses were performed with SPSS V19.0 (SPSS Inc. Chicago, IL).

## 3. Results

Thirty two National Delegations (N=32) answered the questionnaire covering the following countries: Armenia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Lithuania, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

The most available sources of MI were printed books and institutional free access scientific websites (N=30). However, 3 countries (N=3) reported poor workplace access to MI with two countries also reporting limited or no access to internet. More importantly, the most preferred sources were online scientific journals closely followed by printed books, institutional free access scientific websites and senior colleagues; while the least preferred source was pharmaceutical industry (PI) ( $\chi^2 = 56.118$ ,  $p < 0.0001$ ). The preference towards any of the listed information showed no relation to duration of training. The predominant obstacle in access to MI was the lack of recent paid online scientific journals. The additional obstacles listed were reported by almost one third of countries (n=9)(Armenia, Belarus, Estonia, Finland, Latvia, Poland, Romania, Russia and Spain). Trainee's satisfaction with MI access was predominantly rated as "above trainees' average educational needs". The satisfaction was higher if online scientific journals and information from senior colleagues were available, and if the training duration and monthly income were higher (see Table 1).

Guidelines on MI were provided by the national associations or other official bodies in only 7 European countries (N = 7), whilst the majority of trainees thought these would be helpful (90.6%). They were significantly more present in countries with longer duration of training (U = 29.500,  $z = -2.855$ ,  $p = 0.006$ ).

The major concerns raised in the additional comments section were: lack of access to internet based sources of information (N = 7), financial (N = 4), legislative limitations (N = 2), and disparities in MI access within the country (N = 2).

#### 4. Discussion

To our knowledge, this is the first study investigating different dimensions of access to MI among psychiatric trainees in Europe. We found that printed books and institutional free access scientific websites were the most widely available sources for MI, whereas online scientific journals were the most preferred sources. With the exception of few countries (Azerbaijan, Belarus, Latvia, Montenegro, Romania, and Russia), access to MI was evaluated

as sufficient or above the needs. Obstacles preventing adequate access to MI were lack of online scientific journals and printed book availability. Longer duration of training and higher average income were both related to greater availability of almost all sources of information, and higher overall satisfaction with access to MI. Guidelines for accessing information were well promoted according to trainees from only one fifth of the countries.

Access to adequate MI is of fundamental importance for medical training, and consequently patient care. The overall high satisfaction with MI access in our sample is therefore promising. However, trainees particularly from lower-income countries still strive to access online scientific journals, which are most essential to access up-to-date information (Löhönen et al. 2009). This seems to be mainly due to the perceived excessive costs of journal subscriptions. The use of open-access publishing, and the efforts of organizations partnering with publishers to make articles available at reduced cost (WHO 2005), and recent government policies that mandates taxpayer-funded researches freely available to public may provide some relief here. Strikingly, even workplace internet access was not sufficiently available in two countries. In accordance with the previous studies (Younger 2010), limited access to online scientific journal full texts at home and outdated printed books were other obstacles mentioned in our study. Future national and international training standards (e.g. by UEMS) should therefore specifically promote essential standards for access to MI. Evaluation of access to MI should also be standard part of the quality control of local training curricula. Finally, specific guidelines on how to best access MI seem to be lacking in the majority of countries and should be systematically developed. For better guidelines on the access to MI the authors would like to recommend a number of possible partner organizations that are currently working on equality of information access, such as World Health Organization's HINARI project, the International Federation of Library Associations, and the United States National Library of Medicine's Loansome Doc.

Classically the most preferred MI sources among young psychiatrists were senior colleagues' advices, followed by journals and books (Bowden and Bowden 1971). Today's psychiatric trainees naturally rely much more on the internet. However, traditional MI resources still seem to be preferred to electronic resources as much as online sources (Clarke et al 2013). Inadequate computer access and skills among psychiatric trainees might explain the high usage rates of traditional sources (Brady and Knox 2004). Interestingly, the preference for use of senior colleagues as information sources was related to higher monthly income. This implies that even in countries with supposedly overall high availability of MI, the most prized source is still direct human interaction. For psychiatry, this supports the

notion of supervision remaining essential in the transmission of information (Herrmann 1996).

Our study is limited by its choice of national delegations as the study population. Delegation members are likely to have an in-depth understanding of the overall training situation in their countries; therefore they can certainly provide valuable input with respect to their increased awareness of the varying access to MI across the country. However, they are also more likely to be highly motivated trainees from the primary teaching institutions of their countries. Consequently, we cannot disregard the possibility of access to MI being worse than reported in the countries with institutional diversity. To increase the response rate and reliability of answers, a relatively short and simple questionnaire was used. Obviously, a more detailed and validated questionnaire could have provided a thorough understanding of current condition.

Our study suggests significant variation in MI accessibility during psychiatric training across Europe. For further harmonization of psychiatric training in Europe, MI access should be put on the policy agenda and equal availability of MI resources, as well as international, open-access medical information resources should be promoted.

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TABLE

Table 1. The relationships of access to medical information (MI) to training duration, average country income and satisfaction with access to MI

|   | <b>Descriptives</b> | <b>Training duration</b> | <b>Average country income</b> | <b>Satisfaction with access to information</b> |
|---|---------------------|--------------------------|-------------------------------|--|
| <b>Access to source of information (%)</b>            |                     |                          |                               |  |
| Books   | 93.8                | -1.976*                  | -0.472                        | 0.000  |
| Websites  | 93.8                | -2.270*                  | -2.232*                       | -1.454   |
| Scientific journals                                   | 78.1                | -2.486*                  | -2.790*                       | -3.807*  |
| Seniors   | 84.4                | -2.186*                  | -2.547*                       | -2.612*  |
| Industry  | 65.6                | -1.478                   | -0.131                        | -1.050   |
| <b>Preferred source of information (M±SD)</b>         |                     |                          |                               |  |
| Books   | 3.87 ± 1.13         | -0.216                   | -0.514*                       | -0.378*  |
| Websites  | 3.75 ± 1.05         | 0.040                    | 0.303                         | 0.179  |
| Scientific journals                                   | 4.22 ± 1.07         | 0.052                    | -0.011                        | -0.052   |
| Seniors   | 3.56 ± 1.16         | 0.029                    | 0.409*                        | -0.146   |
| Industry  | 1.78 ± 0.97         | -0.072                   | -0.052                        | 0.067  |
| <b>Obstacles towards source of information (%)</b>    |                     |                          |                               |  |
| Lack of recent books                                  | 25.0                | -2.444*                  | -2.568*                       | -3.883*  |
| Lack of time  | 21.9                | -0.197                   | -0.302                        | -1.632   |
| Lack of recent scientific journals                    | 31.3                | -2.345*                  | -2.549*                       | -3.250*  |
| Lack of seniors' help                                 | 21.9                | -0.542                   | -0.452                        | -1.963   |
| Lack of industry's help                               | 9.4                 | -1.222                   | -1.711                        | -2.515*  |
| <b>Satisfaction with access to information (M±SD)</b> | 3.56 ± 1.08         | 0.426*                   | 0.526*                        | -  |

Values for variables on access to source of MI and obstacles to source of MI are Mann-Whitney Z. Values for all other variables are Spearman's rank correlation, unless otherwise specified. \*p< 0.05

**Highlights**

- There is a significant variation in access to medical information in psychiatric training across Europe.
- Availability of sources of medical information is associated with training duration and average income.
- The most available sources of medical information, during psychiatric training, are printed books and institutional free access scientific websites.
- The most preferred sources of medical information, during psychiatric training, are online scientific journals.
- The educators should help improving access to unbiased information channels and advocate for equal access to information across Europe.

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