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Health Professional Mobility Effects on Professional Development, Job Satisfaction and Empowerment

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Abstract

Introduction: Human resources are a fundamental part of health systems and health services. Job satisfaction is a well established determinant for human health resources retention and quality of health care and health outcomes.

Objectives: To investigate health professional mobility effects on health organizations effectiveness and performance, on health professionals development, training, skills acquisition and job satisfaction in a EU country (Portugal), through a survey (electronic survey) addressed to health professionals.

Methods: The “*Conditions of Work Effectiveness - Questionnaire-II*”, validated for the Portuguese language, was selected, to evaluate the perceptions of health workers, Portuguese speakers, working in Portugal or other countries of the European Union (EU) regarding the dimensions of access to opportunity, access to information, professional support, access to resources, creativity, collaboration and activities, and global empowerment. Statistical analysis was performed using SPSS 25 (descriptive, EFA).

Results: Nearly 60% of the 1800 respondents were doctors, 72.7% of them referred working in different health institutions, whereas 51.7% of nurses referred having worked in other European countries. Positive perceptions were found regarding the dimensions of “Access to Opportunity”, “Access to Information”, “Access to Support” and “Global Empowerment”. Negative perceptions were founded for the dimensions “access to resources” and “innovation /creativity (JAS)”

Conclusions: Results suggested potential for intervention and implementation of policies to address the negatively perceived dimensions of access to resources and lack of appropriate rewarding, in order to improve HRH job satisfaction and contribute to quality of health care outcomes.

Keywords: Human serum albumin (HSA); Neonatal Fc receptor (FcRn); Drug conjugate, Binding site, Drug delivery

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Introduction

Health professionals are a fundamental part of health systems, actors without whom health care provision and medical care would not be possible: “Health workers are the core of health systems: without health workers there is no health care”.

Health professionals are defined as “*all people engaged in actions whose primary intent is to enhance health*”, and include doctors, nurses, midwives, health technicians, health agents from public health and primary care, pharmacists or any other professional whose work concerns the promotion or provision of preventive

or curative health care [1].

Development, training and empowerment of Human Health Resources (HRH) is one of the objectives of the “Sustainable Development Goals”, promoted by the WHO “Global Strategy on Human Resources for Health: Workforce 2030” and include the improvement of education, training and development opportunities, promoting the inter-sectorial development, as a way of contributing to quality of health services and health outcomes (WHO).

Human Health Resources (HRH) sector faces important challenges

at medium and long term, also in European, with a predicted shortage of health workers and aggravation of skills mismatches by the year 2020 [2].

Determinants of HRH shortage are well described in the literature and include economic and financial reasons, political and social instability, lack of career perspectives and progression, (Health Worker Migration in the European Region, WHO, 2006). Other motives, also found in literature, concern the work environment, organizational quality and culture, or the characteristics the profession, like the occupational risks, overtime work, unbalanced professional-to-family life, physical and psychological stress, or unsatisfactory quality of job management, with consequent adverse effects on recruitment, retention, production, performance, and healthcare outcomes. Work environment can be described as a combination of characteristics that define the place of work, or “a multidimensional concept that englobes aspects or characteristics of a function, that can be observed by the worker, as the nature of the task, characteristics of the organisation, career perspectives and obtainable rewards”.

A positive working environment affects job satisfaction, professional development and culture, and is a relevant factor of recruitment and retention of HRH, creating an environment that attracts professionals to stay in health services, and promoting the quality of health care and health outcomes [3-5].

On this matter, Kanter sustained that “structural empowerment is associated with higher levels of job satisfaction, lower levels of stress, higher professional commitment and efficacy, contributing to better skills development and HRH retention; The WHO sustains the creation of “positive practice environments”, with the promotion of professionals well-being, security, motivation, increasing productivity, performance and quality of care provided, as a way of contributing to organizational quality, teamwork, collaboration and job satisfaction, as well as the implementation of safe working practices, by managers, employers, regulatory bodies, professional organizations and education institutions.

Objectives

In this work, we aim to investigate health professional mobility effects on health organizations’ effectiveness and performance, and on health professionals development, training, skills acquisition and job satisfaction in an EU country (Portugal), through a survey (electronic survey) addressed to health professionals [6].

Table 1 Definitions.

Dimensions	Definition
Access to opportunity	Possibility for growth and movement within the organization as well as the opportunity to increase knowledge and skills.
Access to resources	Relates to one’s ability to acquire the financial means, materials, time, and supplies required to do the work.
Access to information	Having the formal and informal knowledge that is necessary to be effective in the workplace (technical knowledge and expertise required to accomplish the job and an understanding of organizational policies and decisions).
Access to support	Involves receiving feedback and guidance from subordinates, peers, and superiors.
Innovation/Creativity Job Activities Scale (JAS)	Formal Power: Derived from specific job characteristics such as; flexibility, adaptability, creativity associated with discretionary decision-making, visibility, and centrality to organizational purpose and goals.
Activities/Collaboration (ORS)	Informal Power: Derived from social connections, and the development of communication and information channels with sponsors, peers, subordinates, and cross-functional groups.

Methods

Observational, cross-sectional study, consisting on the application of “The Conditions of Work Effectiveness Questionnaire – CWEQ-II” (survey), to health professionals, with the authors permission. Data were collected from April 2017 to May 2018, and participants recruited by convenience, through divulgation of the electronic questionnaire in the internet (electronic) sites of National Councils, Bodies or Associations of health professionals like (Nurses (n= 61.086), Physiotherapists (n=3700), Nutritionists (n=2061), Hospital Administrators (n=1000) or sent directly to electronic addresses, obtained and authorized by the National Professional Council (of Medical Doctors- Ordem dos Médicos, n=38680), whether working in Portugal or other countries in the European Union. On a second step, the questionnaire was also divulgated on professional and social networks on other electronic sites. (Linkedin® Facebook). All recruited health professionals were Portuguese native-speakers, working in Portugal or any other European country. The survey was presented and validated for the Portuguese language [7-10].

Questionnaire (Data collection tool)

The questionnaire applied was “Conditions of Work Effectiveness Questionnaire (CWEQ-II)”. Construct validity for the CWEQ-I and CWEQ-II was established. The questionnaires have 19 items distributed by six constructs (with 3 or 4 items per construct), referring to the dimensions access to opportunity, access to information, support, access to resources, collaboration (working with others), creativity and global empowerment, using a Likert Scale (from 1-a lot to 5-none). The questionnaire was validated for the Portuguese language (Bernardino *et al* “Transcultural adaptation and validation of the Conditions of Work Effectiveness - Questionnaire-II instrument”, Ramos *et al* “Empowering Employees: A Portuguese Adaptation of the Conditions of Work Effectiveness Questionnaire (CWEQ-II)” and used with the authors permission. The dimensions definitions are presented in **Table 1**. Information regarding respondents’ characteristics such as age, gender, activity, professional category, years of experience, nationality and country of practice was also collected.

Statistical analysis

Collected data were submitted to descriptive and inferential analysis using “Survey Monkey[®]” tool and SPSS, (Statistical Package for Social Sciences, 25 Version) program.

Descriptive statistics and graphics

Univariate and bivariate descriptive analysis, calculation of measures of central location and dispersion, with results presented in tables (frequencies) and graphics (boxplots and bars) [11].

Distribution: Normality or non-normality of data distribution, internal and external validity (reliability).

Inferential statistics

Exploratory Factor Analysis (EFA) was performed for data reduction and correlation analysis (Gonçalves L, 2014/2015) according to the following steps: Variable explore and outliers detection; Construction of correlation matrix; Determination of model adequacy. Determination of eigenvalues and autovectors; Factors retention (Kaiser-Gutten test and graphic representation “*scree-plot*”); Factors extraction (main components method); Varimax factors rotation; Graphic representation and Factors interpretation (Table 1).

Table 2 Characteristics of respondents.

Characteristics	Percentage
Female gender	65.4%
Portuguese nationality	94.4%
Doctor with specialty	61.1%
Current practice in local country	81.0%
Changed workplace between institutions	72.7%
Current permanent link to a local health institution	68.5%
Years of practice > 20 years	30.9%
Years of practice < 5 years	29.2%

Table 3 Results for CWEQ II items (best ranking per item, 1-5).

Dimension	Item	Mean and 95% CI
Opportunity	Possibility of challenging work (2) 45.9%	M=1.77 [1.73; 1.81]
	The chance to gain new skills and knowledge on the job (2) 47.9%	M=1.94 [1.89; 1.98]
	Tasks that use all of your own skills and knowledge (2) 44.9%	M=1.85 [1.81; 1.90]
Access to Information	The current state of the hospital /organization/institution (2) 42.0%	M=2.68 [2.62; 2.74]
	The values of top management (2) 29.0%	M=3.11 [3.05; 3.18]
	The goals of top management (2) 31.0%	M=3.04 [2.98; 3.11]
Support	Specific information about things you do well (2) 36.8%	M=2.70 [2.64; 2.77]
	Specific comments about things you could improve (2) 38.8%	M=2.87 [2.80; 2.93]
	Helpful hints or problem solving advice (2) 37.6%	M=2.83 [2.76; 2.89]
Resources	Time available to do necessary paperwork (4) 50.6%	M=3.37 [3.31; 3.43]
	Time available to accomplish job requirements (4) 38.7%	M=2.97 [2.91; 3.02]
	Acquiring temporary help when needed (4) 31.1%	M=3.35 [3.29; 3.42]
Creativity (Innovation) JAS	The rewards for innovation on the job (5) 40.6%	M=3.92 [3.85; 3.98]
	The amount of flexibility in my job (2) 36.1%	M=2.96 [2.89; 3.02]
	The amount of visibility of my work-related activities within the institution (2) 34.0%	M=2.97 [2.91; 3.04]
Collaboration (Activities) ORS	Collaborating on patient care with physicians (2) 46.8%	M=2.19 [2.13; 2.25]
	Seeking out ideas from professionals other than physicians (2) 54.2%	M=2.12 [2.07; 2.17]
	Being sought out by peers for help with problems (2) 53.4%	M=2.82 [2.75; 2.89]
	Being sought out by managers for help with problems (2) 33.9%	M=2.07 [2.02; 2.12]
Empowerment dimension (GE)	Overall, my current work environment empowers me to accomplish my work in an effective manner (2) 44.4%	M=2.51 [2.45; 2.57]
	Overall, I consider my workplace to be an empowering environment (2) 37.5%	M=2.78 [2.72; 2.84]

Results

Respondents characteristics

Globally, 1800 answers were obtained, with 71.3% completed questionnaires, from April 2017 to May 2018. From the total of valid answers obtained, the characterization presented in **Table 2** shows that 72.7% of the respondents referred mobility between different institutions, having changed workplace among institutions in different periods; 61.1% of the respondents were doctors with specialty, with time of professional experience varying from 5 years (29.2%) to 20 years (30.9%); 68.5% refers having a current permanent link to a local (Portuguese) health organization (permanent contract link), 65.4% are female gender and 94.4% of Portuguese nationality (**Table 2**).

Data presented a non-normal distribution (KS: $p < 0.001$; SW: $p < 0.001$), with 23.7% of missing values (4.2% of variables).

Table 3 presents the results for the items of the questionnaire CWEQ II, with the higher-rated answer per item (in percentage), in a Likert scale from 1 to 5, where 1 (a lot), 2 (quite some), 3 (some), 4 (not much) and 5 (none) are the scale categories. We can see that the dimensions of Access to Opportunity, Access to Information, Access to Support, Activities/ Collaboration (ORS) were well rated, having at least one item ranked in the categories (1) “a lot” or (2) “quite some”, as well as the Empowerment Question (Question I) from the Global Empowerment scale (GE). The dimensions of Access to Resources and Creativity /Innovation (JAS) were less well rated, with most items in the (4) “not much” or (5) “none” ranking (**Table 3**) [12-15].

Statistical analysis

EFA analysis for data reduction was performed, after verifying the adequacy of the model and data distribution, with KMO

(0.907) sample adequacy of excellent degree and Bartlett's test of sphericity ($p < 0,001$), with a sample size ≥ 100 and correlation between factors ≥ 0.70 .

Internal reliability was verified, with a Cronbach's α test (0.866) perfectly suitable. Factors extraction using Main Components method was used, with *eigenvalue* over the unit, Varimax rotation and graphic representation ("scree plot" and "component plot with rotated space"); FA following a different method for factors extraction (Principal Axis Factoring, with rotation method *oblimin* with Kaiser Normalisation) was also performed, obtaining similar results, with four main factors explaining (61.1%) of the variance, summary presented in **Table 4**, with the item loadings in each factor (**Table 4**).

As main findings for the characteristics of the respondents, we found a predominance of female gender (65.4%), Portuguese nationality (94.4%) and currently working in Portugal (81.0%). The majority of the respondents were doctors with a specialty (61.1%), with a professional experience of more than 20 years of practice (30.9%). Results of the survey showed that 72.7% of the professionals with a current permanent link to Health Institutions (HI's) referred working in different institutions/workplaces, showing a relevant mobility rate of health workers between institutions. Interestingly, only 10% to 14% of doctors and specialist nurses referred working in different EU countries, compared to 51.7% of generalist nurses, although this difference was found non-significant. Nearly 67% of the respondents with less than 5 years of practice refers a non-permanent link to a HI, whereas 62% of the respondents with more than 20 years of practice refers a link to HI's [16,17].

From the analysed dimensions (**Table 4**), positive perceptions were found regarding the dimensions of "access to opportunity", "access to information" and "training support"; Items from the dimension "opportunity", like "having a challenging work", "having the possibility of development of knowledge and skills", or "having tasks appropriated to knowledge and skills", were well evaluated, either by professionals with a permanent link to health institutions (44%) as by professionals without a permanent link to health institutions (54%), where 45.4% were doctors with specialty. The percentage of 53.7% of other health professionals (nutritionists, physiotherapists) referred "access to challenging work". The positive perception on access to opportunity was stronger (*a lot*: 45.4%) among speciality doctors, followed by nurses (*some*: 48.3%), whereas the perception of lack of reward was stronger among nurses (*none*: 55.6%) [18].

Other items like "collaboration with other professionals" or "solicitation by peers for the resolution of problems" were also well evaluated either by professionals with a permanent links to health institutions (56%) as by professionals without (45%). Dimensions like access to resources and creativity obtained generally a less positive evaluation, with items like "reward for innovation at work" or "time available for required tasks" being the lowest scoring items (53%). Of the doctors with specialty, 43% of the generalist doctors and 53% of others (physiotherapists and nutritionists) found inadequate access to resources like time available for the required tasks. Regarding lack of rewards for innovation, it is referred by 41.5% of the doctors with specialty and 43% of others (physiotherapists and nutritionists). A good, positive evaluation for the questions of global empowerment (GE) is made by 44% of the respondents, although 40.5% of the European (non-Portuguese) respondents referred only "some" to the empowerment question II, compared to 23% of the national respondents. For the empowerment question I, 28.6% of the European respondents had "quiet some" compared to 44.7% of the national Portuguese respondents [19].

Exploratory Factor Analysis of the given answers, for data reduction, obtained four main factors: 1- *Characteristics of the institution*, (includes items like "knowledge of the state", "objectives" and "values of the institution"), 2- *Organization of the work* (includes the items "time available to organize", and "execute the required tasks" and "meeting the work requirements"), 3- *Collaboration and cooperation* (includes the items "collaboration with other professionals", and "solicitation by peers for the resolution of problems in the work"), and 4- *Quality of work* (including the items "challenging work", "chance of gain new skills", "knowledge on the job" and "doing tasks that use all of your own skills and knowledge").

Discussion

Human Resources for Health are a fundamental part of health systems and health services. Job satisfaction is a well-established determinant for human health resources retention and quality of health care and health outcomes. Research conducted on organizational behaviour showed that investment in a good working environment contributes to the retention of health professionals and to the improvement of quality of care. Other researchers also found an association between overall job satisfaction and intention to leave. In this work, we aim to investigate how the mobility of health professionals, in an EU country (Portugal), interacts with dimensions like

Table 4 EFA (PFA with oblimin rotation).

Factor I	Factor II	Factor III	Factor III
Characteristics of the institution	Organization of the work	Collaboration and cooperation	Quality of work
Q4. Knowledge of the state of the institution ($\lambda=0.746$)	Q16. Collaboration with doctors ($\lambda=0.728$)	Q10. Time available to organize ($r=0.740$)	Q1. Challenging work ($r=0.744$)
Q5. Values of the institution ($\lambda=0.860$)	Q17. Solicitation by peers for the resolution of problems in the work ($r=0.772$)	Q11. Time available to execute the required tasks and meet the work requirements ($r=0.739$)	Q2. Chance of gain new skills and knowledge on the job ($r=0.785$)
Q6. Objectives of the institution ($\lambda=0.867$)	Q19. Collaboration with other professionals ($\lambda=0.748$)	Q11. Temporary help ($r=0.634$)	Q3. Doing tasks that use all of your own skills and knowledge ($r=0.709$)

work environment, job satisfaction, professional quality, and organizational behaviour. To our knowledge, this is the first study where the “*Conditions of Work Effectiveness - Questionnaire-II*” (CWEQ II) is applied to health professionals, at least in Portugal. This study happens at a particular point in time, after the recent economic recession, that allowed an important exodus of health professionals (doctors and nurses) to other European countries, or countries outside the European Union, due to financial reasons [20].

The “*Conditions of Work Effectiveness - Questionnaire-II*”, validated for the Portuguese language, was selected to evaluate the perceptions of health workers, Portuguese speakers, working in Portugal or other countries of the European Union (EU) regarding the dimensions of access to opportunity, access to information, professional support, access to resources, creativity, collaboration and activities, and a global empowerment scale. The study design was considered appropriate to the investigation question, and the questionnaire (measurement tool) was considered reliable and valid for the dimensions in the study (validity of instrument face validity, criterion validity, and construct validity and internal reliability).

The selected subjects are representative of the population under study (health professionals), licensed and registered in the respective professional’s Councils or Associations. One health professional body declined to participate (the Dental Council), whereas other professional groups associated with health and institutions (like laboratory or radiology technicians, administrative or auxiliary professions), were not included, because either not organized in associations or bodies, and less reachable as a professional group.

Response rate was lower than expected, for the total of participants, that includes all the registered and licensed professionals from the National Nurses Council, the National Physiotherapists Association, the National Nutritionists Council, the National Hospital Administrators Association and the National Medical Council; however it is difficult to correctly evaluate the number of participants that was truly addressed, since participants recruitment was made through divulgation of the survey (CWEQ II questionnaire) on the internet sites of professionals associations or councils, knowing that “mail-lists” are not always updated, since many of the professionals are retired and no longer using that e-mail address, or changed country or location, and e-mail address, so the response rate so far is estimated at between 5-10% only. Results showed relevant mobility of health workers between institutions (nearly 73%).

The obtained results (answers) showed that positive perceptions were found among health professionals, regarding the dimensions of “access to opportunity”, “access to information” and “training support”; other dimensions like collaboration/activities (ORS) or access to support were also well evaluated by professionals, although the dimensions “access to resources” and “creativity/innovation (JAS)”, were perceived negatively, presenting lower scoring values.

Conclusions

Although the study is not conclusive, results suggest that there is a relevant mobility rate of health professionals, at the national level. Mobility to other member states countries seems to be more important for nurses, compared to doctors or specialists nurses. At the organizational level, health professionals showed satisfaction with the existing conditions of access to opportunity, access to information and access to support and training, as well as with collaboration with other professionals. These findings are in accordance with results presented by another study, applying the CWEQ II to a group of nurses in two health units in the south of Portugal. However, dimensions like access to resources, time available for the tasks they have to perform, creativity and flexibility, and rewarding and innovation activities were negatively perceived.

These findings suggest the need of further research on HRH motivations, satisfaction and development, and what interactions can be established between organization effectiveness, culture, and health workforce mobility, contributing to the improvement of work conditions, even if one of the reasons for the negatively perceived dimensions may be interpreted as a consequence of the lacking of enough health professionals (HRH), due to emigration.

One conclusion would be the need for implementation of an intervention strategy at management and organizational levels, to improve HRH job satisfaction, quality, HRH retention and efficiency, contributing to better health care outcomes.

Limitations of the Study

Participants recruitment was limited to Portuguese speakers, and health professionals, (including one group of one health-related profession - health administrators - that accepted to participate in the study) and registered at the national Portuguese councils or associations for health professionals. That excludes Portuguese speakers from other Portuguese speaking countries, like Brazil or African countries of Portuguese expression (CPLP’s), because our study is focused on European mobility and European countries, on a first approach. We recruited health professionals, rather than health-related or health-associated professions, because health professionals groups or bodies of association were easier to access; that could be a source of a possible vies of results, if we consider that workers from health-associated professions, may represent a considerable number of workers in a health institution or hospital, although not always organized in councils or associated bodies with representatives. The method of collecting results by electronic survey also presents limitations, as a tool that is dependent on people’s availability or willingness to reply to the survey; although easier to apply and perhaps more accepted by respondents, the response rate was below expected (< 60%), threatening the external validity of the study.

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