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a relevant element in the analysis of health inequalities as a cross-sectional category, and as a determinant – and not only a social one – that women pay. And, to finish, in the words of the dissertation of Dr. Maria Fischmann, who graduated in medicine in Pisa in 1893: "*the depressed state in which the woman lies in today's society (...), being married and under her husband's dominion, she is always in a state of inferiority that oppresses her, she cannot defend herself, she cannot struggle (...). Laws such as social uses prescribe her to suffer and to be silent (...). The influence of the state of mind on the functioning of the intestine is not a utopia*".[9]

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Gender medicine: the knowledge of the staff of the Local Health Authority of Bologna

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The Emilia-Romagna 2017-2019 Social and Health Plan recognizes the importance of gender as a health determinant, as well as that of gender medicine as "*an innovative approach to health inequalities, starting from the onset and evolution of the disease – from symptoms, diagnosis and prognosis to treatments – related not only to a different diagnostic-prescriptive appropriateness, but also subject to social, cultural, psychological, economic and political inequalities*" (sheet no. 9) (https://sociale.regione.emilia-romagna.it/piano-sociale-e-sanitario-2017-2019).

With the aim of promoting actions to fight against inequalities and devise innovative projects for the personalization of care as part of modern welfare models, the Local Health Authority of Bologna established the working group on gender medicine, extending participation therein to representatives of the University Hospital of Bologna, of the Order of Physicians and the Order of Nursing Professions in the Metropolitan Area of Bologna. The group, consisting of 21 professionals from both the health and the administrative areas, also includes a general practitioner and the President of the association for social development and support *Medicina europea di genere* (MEG, "European Gender Medicine") which, since 2015, has been involved in local activities, including the organization of seminars and congresses on the subject and popularization and awareness-raising activities for citizens, healthcare professionals and social workers.

The main objective of the group is to investigate the health inequalities related to gender differences and, based on the results, to plan, develop and implement actions and tools aimed at ensuring the best therapeutic appropriateness. The first specific actions to raise awareness on this issue and to ensure the professional updating are planned for 2019 and 2020.

Based on the proposal of the MEG association, the group promoted a fact-finding inquiry, to be implemented through the administration of an online questionnaire among all the operators of the three Health Authorities of the metropolitan city of Bologna, as well as among general practitioners. The action aimed to arouse curiosity on the subject of gender medicine within the Authority, since both at the national and regional levels this field is considered strategic for the scientific research. It was also considered important to act by progressive steps, stimulating the interest in the study of the topic not only according to a didactic-educational, seminar approach, addressed exclusively to health personnel, but also starting from the analysis of the data concerning the provision of prescriptions, the access to services and hospitalization and home care, since the statistical analysis as a function of the "gender" variable is not yet an established approach. At the base of the questionnaire was the will to organize a public event for the restitution of the results and a first professional updating training initiative on some conditions selected as "meta-trackers". The pathological conditions identified by the group in the questions of the questionnaire can in fact explain the pathological aspects that vary according to the patient's gender, and can be useful in highlighting the complexity of the approach through gender. The strategy implemented is able to provide, for these conditions, additional information, emphasized to the citizen and to the healthcare professional in the formative moments which follow the questionnaire.

The prefix "meta" – when used in Italian in compound words – has the

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meaning of transformation, change, transfer, succession; in several newly coined words, it indicates a discipline or an activity that reflects on itself, that is, on its own nature, its theoretical foundations, its aims. For this reason, the conditions indicated in the questionnaire have been chosen as outlines/tracks, with the aim of stimulating the reflection on how the patient's gender can affect the various stages of the disease and the treatment pathways.

This article analyzes the answers provided only by the employees and the general practitioners affiliated with the Local Health Authority of Bologna, for a total of 2080 questionnaires out of 8466 people.

Methods and tools

The questionnaire drafted by the working group was submitted as a pre-test to the members of the *Central Committee for the promotion of equal opportunities* and subsequently revised on the basis of the observations reported.

The final version, in addition to the socio-demographic part (gender, age, years worked, educational qualifications, professional category, field of work), contained 24 questions for the following areas:

11 questions on the knowledge and general interest towards the issues on gender medicine and gender-related behaviors;

13 questions on the correlations between diseases and gender, for which the responder was asked to answer the question: "*In your opinion, who among men and women is most affected by the following diseases?*". The diseases, identified on the basis of literature data and the health profile of the reference territory, were the following: diabetes mellitus, dementia, multiple sclerosis, hypertension, cardiovascular and cerebrovascular diseases, headache, breast cancer, lung cancer, thyroid disease, respiratory diseases, osteoporosis.

The questionnaire was intended to be filled in anonymously online, and published on the extranet of the Local Health Authority of Bologna for 60 days, at the beginning of 2019.

The distribution of the questionnaire was preceded by a statement included among the company news, in order to obtain the maximum diffusion of the initiative, and was followed, after 15 days, by a reminding email to all the employees of the Local Health Authority which contained the link to access the questionnaire. The results were subjected to univariate and bivariate analyses.

Main results

2080 employees, mainly from the female gender (75.2% women), aged over 50 years (59.3% in total between the two genders), responded to the questionnaire, out of a total of 8466 employees. Participation was mainly from employees belonging to the technical and rehabilitative care direction category (38.9%) (nurses, radiology technicians, physiotherapists, dieticians, speech therapists, etc.), who represent the largest professional group within the company (Figure 1).

The question "*In your opinion, who among men and women is most affected by the following diseases?*" was included in the questionnaire not so much to test the knowledge of the professionals, but to induce a reflection on these topics, a propensity to include the gender factor in their assessments and a possible interest in subsequent training moments in this area. Figure 2 re-

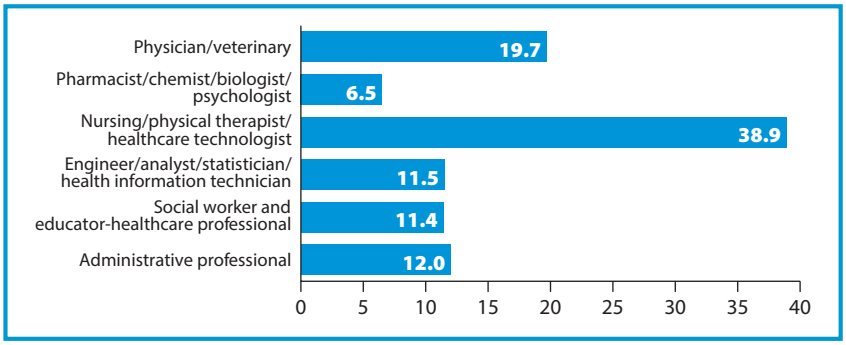

Figure 1. Percentage of participation in the survey by professional category.

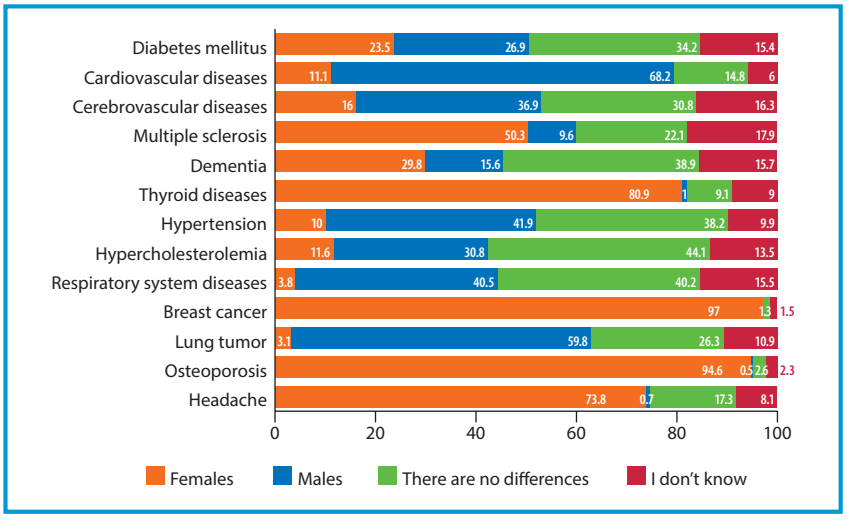

Figure 2. Answers to the question: "In your opinion, who among men and women is most affected by the following diseases?".

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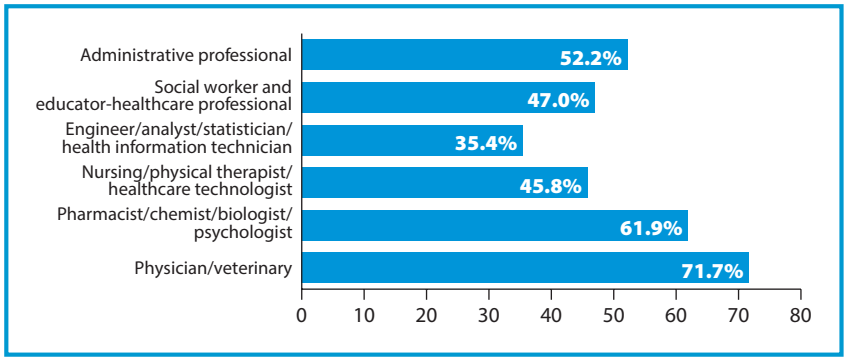

Figure 3. Knowledge of gender medicine by professional category.

ports the employees' responses on the perceived incidence of gender-based diseases.

In general, 51.7% of respondents claim to have heard of gender medicine. The most informed professional category is that of the medical-veterinary staff (71.7%). Below 50% are the categories of the nursing, technical and social-health personnel. The administrative staff ranked above 50% (Figure 3). It should be emphasized that the composition of the administrative staff varies greatly in terms of training, level of education and seniority.

The question reported in Table 1 had an exploratory function, to test the sensitivity or the stereotype that exists at the base of the terminology that is often wrongly labeled as a theme concerning women. Nearly 90% of respondents said that gender medicine is a discipline that aims to treat both genders.

To the question in Table 2 it was possible to provide more than one answer, and most respondents considered weight (73.6%) and age (64.8%) as the factors that can influence the effect of a drug. Only 36.7% consider the gender variable as a factor influencing the effect of a drug. It should be noted that 51.4% of the responses that selected gender as a variable influencing the effect of a drug are attributable to the medical and veterinary personnel, while those attributed to non-medical health per-

Table 1. The objective of gender medicine

Question		Professional category (%)						
		Physician/ veterinary	Pharmacist/ chemist/ biologist/ psychologist	Nursing/ physical therapist/ healtcare technologist	Engineer/ analyst/ statistician/ health information technician	Social worker and educator-healthcare professional	Administrative professional	Total
In your opinion, gender medicine is a discipline that aims to treat:	Females	4.2	2.2	2.2	2.1	3.8	2.8	2.9
	Males	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Both	91.2	95.5	87.7	87.3	90.3	91.2	89.6
	Don't know	4.7	2.2	10.1	10.5	5.9	6.0	7.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2. What are the factors that influence the effect of a drug

Question		Answers		Percentage of cases
		No.	%	
In your opinion, in the absence of other ongoing drug therapies, which of the following factors can influence the effect of a drug?	Gender	764	20.0	36.7
	Age	1348	35.4	64.8
	Weight	1531	40.2	73.6
	Don't know	168	4.4	8.1
Total		3811	100.0	183.2

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Table 3. Clinical trials on drugs

Question		Professional category (%)						
		Physician/ veterinary	Pharmacist/ chemist/ biologist/ psychologist	Nursing/ physical therapist/ healtcare technologist	Engineer/ analyst/ statistician/ health information technician	Social worker and educator-healthcare professional	Administrative professional	Total
In your opinion, females and males are equally involved in new drug trials?	Yes	22.1	29.9	33.4	32.1	30.9	31.3	30.3
	No	32.4	29.1	15.8	11.8	20.8	20.5	20.6
	Don't know	45.5	41.0	50.8	56.1	48.3	48.2	49.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 4. Interest in developing gender medicine

Question		Professional category (%)						
		Physician/ veterinary	Pharmacist/ chemist/ biologist/ psychologist	Nursing/ physical therapist/ healtcare technologist	Engineer/ analyst/ statistician/ health information technician	Social worker-and educator-healthcare professional	Administrative professional	Total
How worthy do you consider the development of gender medicine in the coming years?	Very much worthy	47.1	62.2	55.7	52.0	53.4	59.7	54.2
	Fairly worthy	46.9	35.4	41.6	46.0	44.7	39.4	42.8
	Not much worthy	4.9	2.4	2.5	1.5	1.0	0.9	2.5
	Not worthy at all	1.0	0.0	0.3	0.5	1.0	0.0	0.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

sonnel – including pharmacists – are 57.5%.

In the first three phases, pharmacology studies that test the efficacy of drugs tend to avoid the involvement of women, in particular of fertile age, minors and the elderly, for ethical reasons. To the question, the majority answered "don't know" (49.1%); 30.3% think that females and males are equally involved. Only 20% of the total answer "no", and for the medical-veterinary and non-medical health professional categories the "no" value is around 30% (Table 3).

As shown by Table 4, most employees (97%) believe that the issue of gender medicine should be studied in detail in the coming years; the slightly less interested category was the medical/veterinary.

Conclusions

It should be emphasized that the subject of gender medicine has been introduced only recently and is still not adequately addressed in the training courses. And even if only 24.5% of employees answered the questionnaire, the working group was particularly satisfied with the degree of participation, not only for the direct adhesion to the questionnaire, but also for all the questions addressed to the organizers via email and on the phone, which were evidence of the rise of a widespread general interest on the subject.

The inclusion of the administrative staff in the survey was very useful as an internal debate, because it allowed to establish a reference basis for the answers, which proved to be comparable to those of a citizen informed on healthcare issues, but not professionally involved as are, for example, the patients' family members, the caregivers and the volunteers involved in Patient Organizations.

Precisely the scarce familiarity with the theme meant that a strategy was put in place that could stimulate the curiosity of the interviewees, such as that of the choice of the "meta-tracking" conditions. In reality, the onset of most of the

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conditions listed does not depend only on gender, but on many other factors, of which the gender variable is definitely a part.

For example, in terms of prevalence, the diagnosis of diabetes is more frequent among men; as regards women, it occurs at a later age and at a more advanced stage, with a more severe prognosis for the same age, and with a higher rate of fatal outcomes at the first manifestation of the disease.

Considering only the prevalence data can therefore be restrictive, and induce healthcare professionals not to invest adequately in educational messages addressed to adult women for the adoption of a correct lifestyle (for example, stimulating physical activity) and the promotion of adequate checks. In this regard, the choice to return to the participants the results of the questionnaire in a discursive and didactic form can favor the reflection on the implication of the "gender" variable in the prevention and treatment pathways.

However, an interest in this issue also emerged in the final question, which asked whether the topic should be developed in the coming years: 97% of employees responded "very much" or "enough" for all the professional categories. Particularly encouraging is the answer on the awareness of the objectives of gender medicine, as an approach for the treatment of both genders.

The questions on efficacy and pharmacological experimentation were asked to evaluate the knowledge of the influence of gender medicine on the aspects related to drug prescription (posology, choice of active ingredient, interactions). The comparison was made with variables of consolidated experience, such as weight and age, since the effect of both has historically and widely been addressed in the study pathway and also in the scientific literature. The decision to adopt a transversal questionnaire as a useful tool to arouse curiosity and interest – and at the same time disseminate the topic of gender medicine – and only marginally to test the basic knowledge on the subject, had some significant results. Over a period of two months, almost 25% of employees or contracted personnel responded; it turned out that the knowledge on the subject is modest, but there is an interest in investigating the topic further. Since the answers to the questions showed significant differences between the professional groups, it is considered necessary to design possible targeted and differentiated training pathways for each professional category.

The questionnaire can be considered as a starting point for a preparatory course for refreshing and in-depth programs aimed at professionals and citizens alike.

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