INITIAL RESULTS ON THE NUMBER OF FEMALE MEDICAL PHYSICISTS BASED ON AN INTERNATIONAL ORGANIZATION FOR MEDICAL PHYSICS (IOMP) SURVEY (*ABSTRACT FROM EUROPEAN JOURNAL OF MEDICAL PHYSICS*)

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Extended abstract

The International Organization for Medical Physics (IOMP) has just published a paper on the percentage of female medical physicists (MPs) [1]. The survey was triggered due to the need to find out the gender composition of MPs around the world. It was expected that the survey would provide information on gender imbalance, if it existed, and provide a basis for establishment of a Task Group (TG). Further, it would provide an opportunity for countries and IOMP for more in-depth analysis.

For this reason, a simple online questionnaire was created asking the country, the total number of MPs, the number of female MPs and finally the gender of the person providing the data. The questionnaire was sent to six regional member organizations of IOMP and a major country, the USA. The regional organizations were asked to distribute it among national member organizations (NMOs) and even to non-IOMP member countries. Due to the fact that many years of communication with countries are required before they become members of IOMP, a communication line is maintained with non-member countries too.

It must be emphasized that this is the first time ever that almost global data on the percentage of females in the field of medical physics is being presented. The number of countries that responded was 66 in total. Fifty-two percent of respondents were females. The analysis of data showed that total number of MPs in these 66 countries is 17024. Overall 28 % of MPs were found to be female (4807). Furthermore, there is a substantial variation in the values reported. Median values of percentages of females range from 21 % in USA to 50 % in the Middle East region with Europe having 47 %, Asia 35 %, Africa 33 % and Latin America 24 %. Specifically for Europe, the European Commission, in 1999, adopted a Communication to develop a coherent approach towards promoting women in research with the aim of significantly increasing the number of women involved in research during the period of the Fifth Framework Programme. The Commission's stated aim was to achieve at least a 40 % representation of women in all groups, panels, committees and projects of the European Commission [2, 3]. This target is subject to regular monitoring in order to ensure that the current levels of female participation are raised. Due to the continuous and large efforts of the EC [4, 5], the percentage of women in the field has met the initial target of 40 % but is still less than 50 %, with 10 out of 16 countries reporting values below 48 %. It must be noted that, according to the European Commission's policy on women in science, "achieving equal and full participation of women in all scientific disciplines at all levels in the scientific job market" is a fundamental part of its mission. It is quite interesting that countries such as Germany (female MPs: 20 %), Netherlands (female MPs: 21 %) and Spain (female MPs: 29 %) are far away from the initial target of 40 % set by the European Commission. On the other hand, there are quite a number of countries around the world with a so-called tradition of biases against women entrenched in their history and culture (such as those in the Middle East or Asia) where today the female MPs actually outnumber males. Our data show that these countries seem to follow the change in attitude in medical physics as also quoted by van Arensbergen et al [6]. On the other hand, despite perception otherwise, data do not reflect positively about developed countries.

There are a number of limitations such as: 1) the survey was conducted as a first level information of existing situation rather than a scientific study; 2) data were based on numbers provided by national member societies but in some of these countries personnel may include professions other than MPs such as radiation oncologists, radiotherapists, technologists, dosimetrists, etc. (The large variation in different countries on "who is MP?" creates serious difficulty and for the purpose of this paper leaving it to each member country organization to decide what was accepted as being adequate.); 3) there are countries that tend to cite lower numbers in membership because this helps in payment of lower dues; 4) a number of countries may have given speculative

numbers. Another important limitation is the number of countries that participated in the survey. This is particularly important for Europe (16 countries participated in the survey). According to the European Federation of Organizations for Medical Physics (EFOMP), which is the regional organization of IOMP within Europe, there are 35 European countries within Europe that are members of EFOMP. Also, the absence of Canada, Australia and New Zealand is significant as regards the Asia-Pacific region. Given the importance of the data and the results of the survey, a more detailed study is needed. Unfortunately, also, developed regions of the world such as the USA that may be expected to have higher percentage of women, actually have a lower percentage as compared to many developed countries, despite the fact that they have the highest number of MPs in the world.

Our data will serve as a baseline for future actions around the world in pursuit of the objective of gender equality in science. It provides opportunity for deeper analysis, in cooperation with national societies, for the inequalities between women and men in medical physics and their evolution over time. In view of importance of the subject, a more in-depth study needs to be undertaken in near future.

References

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