

Full Length Research Paper

Increased feminine matriculation in Argentinean Medical schools: Identification of possible reasons underlying a seemingly broader phenomenon

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This paper examines reasons of potential relevance concerning the increase of female matriculation through a poll, applied to 130 female and 75 male students, among 500 admitted ones at two Argentinean medical schools (2003-2005), both of them relevant in what concerns to their dimensions and standards. This poll was qualitatively combined with an interview performed to 52 gender equated students among the 205 participants. Majority of females (82%) and males (80%) firstly thought of Medicine at the age of 15 ± 1 years and 16 ± 1 years old and made their final decision for it when aged 16 ± 1 years (85% females) and 17 ± 1 years (84% males). For making this decision, females reported that their higher influence from final decision was from persons close to them and mass media (39% versus 52%, $p<0.008$), and higher attraction for Biology (53% vs. 10%, $p<0.007$). They did not give relevance to the social status of Medicine and its likely condition of independent profession was not reported as relevant either (2% versus 18% and 2% versus 30%, respectively; $p<0.007$ in both cases). Most participants (93.5 % of both gender combined) perceived Medicine as their only self-satisfying career, referring no previous university studies. Qualitatively, females reported feeling capable of facing the challenges of Medicine and of reaching any hierarchic level. Likewise, Medicine was believed to offer access to several functions, providing autonomy and possibilities for promoting human aspects and personal values. Exceeding their roles beyond that of a socio-cultural interactive image women-mother- physician, they envisage to the male-tailored Medicine as a challenge for reverting such status.

Keyword: Matriculation, feminine, medical schools, Argentina

INTRODUCTION

According to the Statistical Bulletin of the Rosario National University, in the last eighteen years (1991-2008), two careers have been reported to hold increasingly of greater attraction, Law and Medicine, ever since (regarded as "male" careers), and thereby experienced noticeable increases in the female matriculation. In this sense, Law grew from 55 % to 59 % ($x = 57$ %) while Medicine moved from 53 % to 68 % ($x = 61$ %). The annual percentage of females admitted to Medicine maintained higher to 60 % since 1997 until

present, irrespective of having changed its curriculum in 2002 from a traditional design to a pure PBL one (Boletines Estadísticos, 2008).

Present expanding trend is in line with the 40 % to 55 % increase seen in U.S, Europe (Russia, United Kingdom) and fourteen Latin-American countries (eight in South America, five in Central America and one in Mexico) from 1978 to 2002 (Boletín Digital UNESCO, 2007; Bickel 2000; De Angelis, 2000). Reasons underlying such a progressive and continuous increase in female matriculation in our medical schools and others of similar nature are presently unknown and hence worth studying. To our understanding, this question has not only a local intrinsic value, but may also provide some

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clues for changes occurring in developing countries like Argentina and to certain extent in developed ones, as well. Thus, following Reichenbach and Brown's proposal (Reichenbach and Brown, 2004) about the need of more evidence related with gender and academic medicine and to gain some insight into this complex issue, we carried out a quantitative and qualitative study in newly admitted students at two Argentinean medical schools.

STUDENTS/METHOD

A cross-sectional descriptive design was applied. Analysis units were female and male students newly admitted at two Argentinean Medical Schools between 2003 and 2005. Additional information sources included distinct databases, previous reports and expert references. For quantitative and qualitative strategies, we employed the following procedures:

Quantitative strategy

A sample of 205 volunteers (130 females and 75 males) from a population of 500 newly admitted students was randomly chosen and subjected to a structured poll. In this regard, strict ethical rules were observed. Data under analysis dealt with, (a) the socio-cultural level of students: age, gender, marital status, type of attended high school (In Argentina, there are no colleges between high school and University), employment (hour/week), parent instructional level and work, (b) the decision process for choosing Medicine: age when wishing to become a physician was first envisaged, age when a firmly decision was made, prior University studies and its type if present, perception of Medicine as a satisfying career in professional life, reception of vocational orientation (place and time), influences received from parents, relatives, friends (physicians or not), mass media or any other else (to be specified) and the main reasons for choosing Medicine.

Some of the (a) items were utilized to approximately appraise the student's social class.

This characterization of the admitted population was not only a clue for the complementary qualitative strategy but also served for comparing present results with the prior ones obtained in our medical school during 90s and 2003.

Data yielded by the structured poll were analyzed through the chi square and the Fisher's Exact Test, when applicable.

Qualitative strategy

To this end, a qualitative analysis was applied (Strauss 1987; Strauss and Corbin, 1998; Morse 1994; Guba and Lincoln, 1981; Lincoln and Guba, 1985; Morse et al., 2002; Jones et al., 2004). Briefly, 52 students (26 males and 26 females) were selected among those whose survey answers demonstrated their making decision process being clearer. In short, they had had a long deliberative period between the first time they thought of being a physician and the time when they firmly decided for it, they had entered straight from high school without having considered nor coursed any other alternative career and they had stated that Medicine was the only career that could satisfy themselves for their future professional life.

These students were previously informed of the study purposes and had signed a written consent form.

The non structured questions listed below derived from some of the poll answers and previous papers (D'Ottavio et al., 1997; Vago et al., 2003) and were approximate and provisional. In fact, they were adapted accordingly to the incoming results of the interview during which a special care was taken for avoiding rejection towards the procedure in each one of the interviewed participants. The triggering questions were always the first four. The remaining ones were formulated only if the interview gave an indication for using it.

- Why did you choose Medicine?
- Why do you think that the percentage of admitted women to our Medical School have progressively been increasing since more than a decade ago?
- What image do you have about women as physicians?
- When you decided to study Medicine, did you take notice that men could be oriented toward other activities or careers?
- What significance and value have the title of physician in relation with your personal expectations and those of your relatives and close friends?
- What relevance do you give to the title of physician for your future labor insertion and social ascent?
- What kind of plans and projects do you expect to accomplish in relation with medical practice?

The interviews were tape recorded and faithfully reproduced. Furthermore, this strategy implied not only several interactive meetings with students until saturation of investigated categories but also discussions with experts in the field.

RESULTS

Quantitative results

Polled students ($n=205$) aged 18.5 ± 1 years, 97 % were single, with 51 and 49 % of them having attended at public and private high schools, respectively. Most of them (81.5 %) did not work concomitantly with their medical studies. As regards parents, 40 % and 42 % of women's and men's parents respectively had a fully or nearly completion of university studies. All parents developed labor activities which along with other socio-cultural indicators, led to reasonably establish that most students belonged to middle and upper social classes. Such findings were not sex related.

The first time that most participants thought of becoming a physician was when aged 15 years (82 % of females – 15 ± 1 - and 80 % of males – 16 ± 1 -) with a firm decision being made at the age of 17 years (85 % of females – 16 ± 1 - and 84 % of males – 17 ± 1 -).

Females and males had received pre-professional orientation in a very similar percentage (44 % and 45 %, respectively), while being high school students.

As seen in Table 1 below, 94 % of females and 95 % of males perceived Medicine as their only self-satisfying career in professional life and referred no previous university studies. Such results were not sex related.

When analyzing influences, 39 % of females and 52 % of males declared some type of influence from parents, relatives, close friends or mass media at the time of choosing their career ($p < 0.008$). Notably, in 15 % of

Table 1. Different variables in female and male decision process for Medicine

Variables	Females(n=130) % (95% CI)	Males (n=75) % (95% CI)	P value
Perception of Medicine as the only self-satisfying career in professional life and the only chosen career	94 (88-97.2)	95 (86.6-98.4)	ns
Influences from parents relatives, close friends or mass media	39 (30.6-47.9)	52 (40.2-63.5)	<0.008
Physicians as relatives	15 (9.5-22.5)	18 (10.4-28.9)	ns
Attraction for Biology	53 (44-61.7)	10 (4.5-19.6)	<0.007
Independent profession	2 (0.4-6.6)	30 (20.2-41.8)	<0.007
Social function assigned to Medicine	43 (34.4-51.9)	42 (30.8-53.9)	ns
Social status of Medicine	2 (0.4-6.6)	18 (10.4-28.9)	<0.007

Data were analyzed by the chi square test.
CI: confidence interval

females and 18 % of males one of their parents was a physician, at least (Table 1).

Reasons among females for choosing Medicine were their attraction for Biology (53 %) and the social function assigned to Medicine (43 %), with the latter variable (42 %) and the condition of independent profession (30 %) being the main reasons for males. The social status of Medicine was mentioned by 18 % of males and 2 % of females. Neither teaching nor investigation or public health or general medicine caught the attention of these polled students. Except for the social role, declared reasons for choosing Medicine showed significant statistical differences between sexes ($p < 0.007$) (Table 1).

No significant association was detected in relation to influences from parents, relatives, close friends or mass media and other major variables (Attraction for Biology, Independent Profession and Social Status)

Qualitative results

The more noticeable answers drawn from the interviews are enlisted below.

1. Reasons for becoming a physician corroborated those previously stated in the poll either by females or by males. For instance, status and social prestige were especially motivational for males

2. With regard to the likely purposes underlying the progressive increase of female matriculation, the participants, particularly females, gave several clues that can be summarized as follows:

About Medicine

- Medicine:

✓ Was perceived as allowing a quick and well-matched working option (unlike other professions, a physician usually works as a physician). Males held the same opinion

✓ Kept being attractive for females and males by offering a wide range of specialties

✓ Gave proper access to different functions allowing females to develop in all of them

✓ Provided personal autonomy, which rendered them independent from different life circumstances. This allowed searching for other alternatives of coexistence (as later seen, satisfaction of her spouse or mother roles)

✓ Offered wide possibilities for females to promote human aspects, focusing on personal values. Likewise, it made feasible the development of her femininity, i.e., open spirit to very relevant values, valorisation of ill people as persons, comprehension of emotional features (less considered by males) and better interpersonal communication, among others.

About their insertion in medical career and medical practice

- Females:

✓ Believed themselves able to cope with all kind of challenges demanding Medicine, feeling themselves equal to, and still more capable than males of facing difficult endeavors, like Medicine, and succeeding in such attempt

✓ Showed a higher spirit of sacrifice for reaching their goals, like something natural. Males not only recognized this spirit but also admitted that they have a higher discipline and organizing skills for a difficult career like Medicine and for the professional challenge that it implied.

- ✓ Still perceived few gender barriers in medical practice as well as in certain medical fields usually man-tailored and inaccessible to females in the past (mainly surgery and surgical specialties). Strikingly, many males discarded this perception
- ✓ Were sure to reach any hierarchic level in the chosen work despite the literature still states the contrary (Bickel 2000; De Angelis 2000). In this sense, the medical title and definite specialties could be good starting points
- ✓ Showed predominant intention to constitute a family, in congruence with a traditional conception of gender
- ✓ Harboured optimistic expectations with regards to a future compatibility between their professional practise and raising children. Turning to the possibility of postponing maternity beyond thirties, most of them revealed an interactive image *women- mother- physician* in agreement with noticeable cultural and social pressures. To overcome that situation, they imagined a part-time work reinforcing the above mentioned traditional conception of gender. Unusually, men considered surmountable this obstacle; from a declarative standpoint, at least.

About female image as a physician

- All participants admitted similar skills in both sexes for facing any challenge in Medicine. They also stated that the eventual differences perceived in postgraduate life could obey to all aims and purposes or to some established socio-cultural shortcomings "restraining" females to determined medical areas (i.e., general clinics, pediatrics, tocogynecology or specialties such as Dermatology, Ophthalmology and so on). Notably, neither males nor interviewed females made any reference to other medical fields as teaching, research or public health. Lastly, findings dealing with the remaining questions were as follows:
 - Except for a man stating that males could be directing their expectations towards more profitable activities than Medicine, as maintained in certain medical and non medical societies, the remaining participants ignored if males could be directing such expectations towards other activities or technology careers
 - Participants stated that their parents, relatives and/or close friends accepted their decision because all of them assigned a relevant signification to Medicine
 - The interviewed students showed a strong conviction that the title of physician would facilitate their future labor insertion and social ascent, exceeding the current trend of proletarianization and progressive drop-out from health professions seen in some developed countries and in developing ones, as ours. It may be that the strong desire of being a physician interferes with real perceptions or

that they are not clearly perceived at the age the applicants enter to the University

- All of them had already made a decision about specialization before applying to the medical school

To sum up, the studied groups showed a homogeneous profile quite similar to that previously registered by us (Vago et al., 2003). This agreement also extends to the analysis of the decision process for Medicine, drawn from a quantitative strategy.

DISCUSSION

The involved medical schools were selected because of operative reasons and also for being representative of what quantitatively occurs in relation with feminine matriculation in most Argentinean medical schools.

Present quantitative data bear relation with earlier reports analyzing variables similar to those here considered (D'Ottavio et al., 1997; Vago et al., 2003). The short deliberative period between the age when wishing to become a physician was first envisaged and the age when a firm decision was made was one of the data then reported and spoke about the short time devoted to evaluate pros and cons. Extending those findings we now inform that the decision process for choosing Medicine may be influenced by parent's educational level. Despite 18 % of students that had grown in a family with one parent as a physician and the equal sex distribution of such condition, this factor cannot be entirely discarded as accounting for student decisions.

Females appeared less receptive to external factors when choosing the career and appeared to be less concerned about the social prestige of Medicine.

It must be emphasized that neither females nor males gave special significance to teaching, research, public health and general medicine. The latter view sounds inquiring because not only our medical schools are committed with the training of a general physician skilled in primary care but it also regards general medicine as a specialty.

Beyond some differences and similarities with our own earlier reports (D'Ottavio et al., 1997; Vago et al., 2003), females and males reasons for choosing Medicine resulted essentially different.

In view of this, we combined and completed the quantitative strategy with a qualitative one because the poll gave only a general standpoint about the subject under analysis.

The qualitative approach pursued to go beyond the straightforward assumption that Medicine is no longer a rentable profession for males and they may be searching for more rewarding activities (trade, industry, services) or technology careers, like system analyst. This point of

view may be based on the existence of a progressive drop-out from the sanitary professions in some developed and developing countries. Reasons for such may include: increasing professional disappointment, lack of social recognition, scarce salary, emotional tiredness, training problems, access of less qualified physicians from other countries into the labor market, growing *medicalization* (*Medicalization* is the process by which human conditions and problems are defined and treated as medical conditions. Consequently, they fall under the authority of physicians and other health professionals. In a few words, the power of Medicine extends to non-medical areas) of life, patient demands, misconduct-based legal actions, health globalization and consideration of health as one of the more consumed products (Casino 2006).

However, Medicine continues to be a fascinating profession everywhere as revealed by the increasing female medical matriculation in both ours and other Universities placed in distinct social, political, economic, historical and cultural contexts.

Without being mutually exclusive with the single assumption of male drop-out, information gathered from the interviews raises the view that additional reasons may be also accounting for the increased female matriculation. Such reasons may be revealing a more complex scenario, which in turn reflects a real progress into the long and wider way that females have covered pursuing to reach equal opportunities and possibilities, at least in the medical field.

In this regard, we must outline the revelation of a socio-cultural interactive image *women- mother- physician*, not fully freed from a traditional gender conception.

Furthermore, persistent inequalities are evident in most of the hierarchic positions in Medicine still lying in male's hands (Bickel 2000; De Angelis 2000; LaWanda 2008). Hence, although the access of females to Medicine and their graduation expand, their occupation in relevant positions is still low (Wright et al., 2003; Palermo 2006).

This matter may be also related with another current question: what do medical schools teach about gender differences? In this sense, Henrich and Viscoli found that few schools include gender-specific information in their curricula (Henrich and Viscoli, 2006). Attempts to overcome this lack have recently been launched the curriculum of our medical schools.

Finally, since these data were registered as early as the students were admitted, the possibility that their still inexperienced views may be reflecting the popular beliefs on this question should not be overlooked.

Increasing female matriculation seems to be a broader phenomenon, for which the reasons herein proposed provide a stimulating background for further examination and validation given its value for developing countries and, to certain extent, for the developed ones, as well (Risberg et al., 2009).

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