ABSTRACT: In this article, we offer a brief summary of the report from the Task Force for the Promotion of the Status of Women in Medicine in Israel. The task force, formed by the Israel Medical Association in 2013, published a comprehensive report in May 2015 dedicated to the promotion of equal opportunities for female doctors in the Israeli healthcare system and in the academic world. The aim of this paper is to present the work of the task force and to highlight its main principles and recommendations against the backdrop of the gender revolution in the Israeli healthcare system and worldwide.

KEY WORDS: medical profession, Israel, female doctors, women in medicine, feminization

BACKGROUND
Recent years have witnessed one of the most significant transformations in Israel’s medical profession, with the number of female medical students surpassing the number of male students. The trend is clear: females are becoming the majority in Israeli medicine.

Nevertheless, the medical profession originated as a male-dominated profession, and despite the increasing gender change, the rules of conduct remain masculine-oriented. It is more difficult for women to fully integrate into the profession, to progress in specialties that are perceived as “male,” to be appointed to senior management positions, and to advance in academic ranks. The healthcare system employs many women but the organizational culture is out of sync with an increasingly female-dominated profession.

The Israel Medical Association (IMA) spearheaded the gender revolution in the Israeli healthcare system. In 2013, for the first time, the IMA convened a forum to examine the status of women in the medical field. The conference, “Female Revolution in Medicine – Gender Changes in Modern Medicine, Challenges, and Opportunities,” resulted in the formation of a task force on the promotion of the status of women in medicine, which was headed by Prof. Rivka Carmi, president of Ben-Gurion University of the Negev.

A comprehensive report published by the task force in May 2015 constituted an important cornerstone conclusion on the topic of women in the healthcare field in Israel [1]. Our aim in this paper is to present the task force’s work and to highlight its main principles and recommendations against the backdrop of the gender revolution in the Israeli healthcare system and worldwide.

FEMINIZATION OF THE MEDICAL PROFESSION WORLDWIDE AND IN ISRAEL
The number of female physicians in Israel has increased in recent years. A 2013 Ministry of Health report revealed that women comprised 42% of physicians under the age of 65 years and 46% of physicians younger than 45 years of age. Women comprised 39% of all employed physicians and 44% of all employed physicians under the age of 45. In general, the percentage of female specialists under the age of retirement, as of September 2014, was approximately 39% [2,3].

The percentage of female physicians is expected to continue to grow and exceed 50% of all physicians in Israel, based on key figures obtained by the task force from the Council for Higher Education (CHE) as well as data from the Central Bureau of Statistics (CBS) [4,5]. As of the 2013–2014 academic year, 52% of all medical students were women. The trend is clear. In ensuing years, women are expected to constitute the majority in the medical profession in Israel.

ADEQUATE REPRESENTATION OF FEMALE PHYSICIANS IN MANAGERIAL POSITIONS
Representation of female physicians in managerial positions in the healthcare system is almost inversely proportional to their percentage among all physicians. Medical management is a male-dominated field, in which women encounter difficulties finding their place. As of September 2014, only 11% of all specialists in the field of medical administration in Israel were female. Less than one-third of residents in the field were female.

The issue of female representation in the managerial ranks of the Ministry of Health, and particularly in government hospitals,
is introduced as the most negative and problematic example in the report issued by the Committee for the Advancement of Women in Civil Service (Stauber committee [6]). According to figures from the Civil Service Commission obtained by this committee, between 2010 and 2012, government hospitals employed 1603 female physicians (38%) out of 4269 physicians in total. Despite this small amount, the percentage of female physicians in the four highest levels of management was only 23%.

The higher the rank, the fewer the women. Only 8% of directors of government hospitals are women, and only 24% of deputy directors of government hospitals are women, 28% of the deputy directors in general hospitals, 20% in psychiatric hospitals, and not one in any geriatric hospital.

The problem regarding lack of adequate representation in senior management positions is attributed, inter alia, to academic requirements (such as fellowship training abroad), which women find difficult to fulfill. In addition, there are obstacles in coping with managerial positions due to an organizational culture that does not encourage women to assume these positions and the "glass ceiling" that hovers over the heads of female physicians. Furthermore, because of the absence of women in senior management positions, women have no role models from whom to learn and identify. These challenges exist among female physicians at all stages of their career.

THE CHALLENGE OF BALANCING CAREER AND FAMILY

The traditional family structure and the position of women are changing due to sweeping social and cultural changes, including the increased participation of women in the job market and the transition to joint parental responsibility that allows both partners to spend more time at work and balance the relationship between career and family.

Nonetheless, despite the progress in perceived parental equality, our premise is that parental responsibility for raising children (and at a later stage, support of aging parents) is still, for the most part, assumed by the mother.

The task force examined the situation around the world through a review of recently published prominent articles and later discussed the balance between career and family in Israel assisted, inter alia, by a qualitative survey conducted by the IMA in conjunction with the Geocartography Institute prior to the Women in Medicine Conference in July 2013.

The study found a distinction between medical residences perceived as masculine and those perceived as feminine, or at least less masculine. The authors of the research mentioned this distinction as "a perceptual norm that they (female physicians) do not deny, including those engaged in masculine fields." The reasons for this distinction are not uniform in all specialties and include physical difficulty in performing in the field (such as orthopedics), traditional masculine perceptions of the profession by department directors that have not dissipated over time, and conscious selection of specialties known to be less demanding with regard to family obligations. We should note that this distinction is well-reflected in data, which reveals that some residencies have a clear male majority, particularly surgical fields.

There is no doubt that the selection of a specialty considered less challenging and demanding in terms of the ability to balance career and family is closely related to the period of life in which female physicians begin their residency. The perception was, and still is, that parental and familial duties are women's obligations, and the common gender bias states that even women who choose demanding careers in medicine are expected to perform domestic work at home. It is known that female physicians consider parental responsibilities and time with children as key, occasionally decisive, issues when selecting a profession.

As female residents stated in the qualitative study, the difficulty in overload during residency is particularly severe since this is a period of life that involves pregnancies, nursing, and child rearing.

ORGANIZATIONAL CULTURE AND PHILOSOPHY PERTAINING TO THE STATUS OF THE FEMALE PHYSICIAN

Findings of the IMA qualitative study reveal an ambivalent attitude of female physicians to the medical profession. Whereas the majority of physicians express satisfaction with their profession, even considering it as one that allows job equality, they also raise difficulties and challenges attributed to their being women.

A survey, Gender Discrimination in the World of Medicine [7], which was conducted by the Pharmaquest research institute in conjunction with the Mednet portal and published in The Marker, found that female physicians believed that they were treated differently from their male counterparts. Of female physicians who participated in the survey, 58% responded that discrimination existed between men and women in the medical profession. Approximately half of the participants believed that the discrimination manifested itself in women being only selectively accepted to prestigious, largely male-dominated, specialties. They also felt that they experienced difficulties in reaching key positions of management and in obtaining research budgets. Female physicians who participated in the survey noted a system dominated by a male majority that seeks to protect its own interests.

Female physicians also reported encountering negative or differential attitudes pertaining to their gender. For example, 93% of female physicians who participated in the Pharmaquest survey stated that patients mistakenly believed them to be nurses and 82% of the female physicians stated that they were called by their first names without the title of doctor, unlike a standard appeal to male physicians. Some female physicians even testified that certain patients preferred male physicians over female physicians.
The common thread among nearly all female physicians who participated in focus groups of the IMA qualitative study was the need to focus on the structural difficulties of the system and call for development of equal opportunities in the work environment for all, rather than just creating remedies for only one gender group. The female physicians emphasized that remedies must be given in a sophisticated manner, with minimum impact on male physicians, female physicians who do not have children, or mothers of adult children. In particular, they wanted the solutions to be introduced as system improvements and not as a response to their demands.

On the one hand, this approach is evidence of a latent internalization of gender inequality and the sense of illegitimacy in demanding a facilitating work environment. On the other hand, the aforementioned statements also highlight the tension that exists between female physicians who are mothers and their co-workers. It would be interesting to speculate whether this type of tension would occur between male physicians called for military reserve duty and those who do not serve and not necessarily centered around parenting.

According to the task force, medical directors must recognize this tension and address the needs and desires of all sectors, particularly those of young mothers. Simultaneously, actions should be adopted to empower female physicians and to provide them with tools to cope with the inherent difficulties in the medical workforce.

The task force considered the premise that women, unlike men, also face psychological barriers, such as lack of confidence in negotiation, fear of failure, difficulty in marketing themselves, poor self-esteem, and the need for encouragement and support in pursuing and maintaining managerial positions. One cannot assume that these barriers are present for all, or even a majority of, female physicians in the system. At the same time, an appropriate, advanced organizational culture should address these potential barriers when formulating policies on equal opportunity in the system.

The task force also examined the possibility of salary gaps between men and women. As a rule, collective wage agreements for all physicians in the same specialty and position are identical, and the IMA’s Labor Relations Department attested that no complaints were filed by female physicians about salary gaps attributed to gender discrimination by the employer.

At the same time, research conducted by the Israeli Ministry of Health, the CBS, and the Brookdale Institute examined salary statistics in 2008 and found a salary gap between female and male physicians. The authors of the research indicate a 36% gap in the average salary of female physicians, to their detriment, compared to male physicians [8]. The authors of the research did not find discrimination to be the cause of the salary gap and believed that, “the differences may be attributed to selection of specialties and access to senior managerial positions.” They recommended conducting a study on the causes behind the salary gap in order to remove the barriers and regulate equality between men and women employed in the medical field.

The task force concluded that a concerted effort should be made to confirm that no salary discrimination exists between male and female physicians. Female physicians should also be made more aware of their right to equal salary and of the option of turning to the IMA with any suspected salary discrimination.

LONG-TERM REPERCUSSIONS OF FEMINIZATION OF THE PROFESSION

The repercussions of feminization of the profession not only affect the work of male and female physicians currently in the field, but also have long-term effects both for specific professional specialties and the entire healthcare system.

Feminization of the profession may have both a positive and negative impact on the healthcare system. A review of literature [1] presented to the task force reveals that female physicians tend to spend more time per patient and provide more explanations, using open communication and emphasizing preventive medicine.

One of the greatest concerns of feminization is generating a decline in the status and salary levels overall of the medical profession. This discussion is of particular interest for groups that work largely in the public sector or combine work in the public and private sectors. Even today, the proportion of female physicians is higher among salaried physicians than among self-employed physicians or physicians who balance public and private sector work.

We must be cautious about repeating the process that occurred in Israel over the years in the field of education. The more feminine the profession became, the lower the salaries fell, deterring many men from entering the profession and harming the public’s perception of the quality of education.

Feminization of the medical profession has repercussions on gender distribution in specialties as well. As discussed earlier, some specialties, particularly surgery, are still viewed as being masculine and/or pose real or perceived obstacles to women wanting to enter these specialties. The result is that these specialties employ far more men than women. Over time, the effect is manifested in a critical decline in medical personnel in certain specialties, thereby harming the entire medical profession.

The task force believes that within the confines of national workforce planning in medicine, focus should be placed on feminization of the profession. The task force notes a lack of national studies on this subject that aim to understand the process and the source of exclusion of women from various specialties, as well as an understanding of what is required to increase female participation in specialties, which they are currently not choosing.

The advancement of female physicians is a common interest of both genders

The task force also examines the possibility of salary gaps...
FEMALE PHYSICIANS AND ACADEMIA

One of the problematic issues revealed in the qualitative study conducted by the IMA is the difficulty in balancing career advancement in the academic world. This difficulty was manifested particularly among the focus group of female specialists. It should be noted that the Stauber Committee [6] also noted the gender barriers attributed to academic requirements (in the form of the need to undergo fellowships overseas as well as publish research) to progress in the managerial ranks. This difficulty is recognized in other countries as well.

In 2011, the CHE formed a task force headed by Prof. Rivka Carmi to review the status of female academic faculty members in institutions of higher education. This team found that, whereas women are represented by an average of more than 50% among PhD graduates in institutions of higher education in Israel, their representation decreases as they move up the academic ladder. The team also established that women in academia cope with unique barriers related to their need to balance family and career [9].

Among female physicians in academia, the situation is similar. According to figures provided to the IMA task force by the CHE, whereas the percentage of female physicians studying for a PhD is 50% on average, only a few manage to balance their clinical practice with academic activity over time. The IMA’s qualitative survey revealed a need to examine ways to encourage women to enter the academic research track, allocation of dedicated research budgets to women, and adaptation of academic promotion tracks for management to coexist with clinical work and family life.

With regard to the fellowship training mentioned in the Stauber Report, the IMA’s Scientific Council informed the head of the task force that the possibility of performing a fellowship does exist in Israel, but implementation is problematic due to the shortage of dedicated positions. There is no doubt that action must be taken to make this training accessible to female physicians who are unable to move overseas.

The task force believes that the issue of balancing a medical professional career and an academic career requires special review and study, apart from this report. Accordingly, the task force recommended that the IMA and the Scientific Council appeal to the Medical School Deans’ Forum with a request to form a joint task force to focus on this issue. It should be noted that this task already accomplished by the committee headed by Prof. Stavit Shalev, which presented a report and recommendations in this matter.

TWO MILESTONES IN THE ADVANCEMENT OF FEMALE PHYSICIANS IN THE WORKPLACE: THE GERMAN COMMITTEE REPORT AND THE STAUBER REPORT

The issue of employment of women in Israel in general, and in the healthcare system in particular, has been the subject of two key reports published recently. According to the task force, these reports create a window of opportunity and positive momentum among decision makers to review the gender aspect of employment of female physicians in the healthcare system.

In April 2013, the Committee for Strengthening the Public Health System (the German Committee) was established to reinforce the public healthcare system [10]. The IMA task force, chaired by Prof. Rivka Carmi, sent a letter to then Minister of Health, Yael German, regarding gender changes in the medical profession. She requested that the minister pay special attention to gender aspects when formulating the committee recommendations in general, and in particular when reviewing the suitability of the “full timer” model, which was created by the committee during its hearings on women in medicine and was designed to increase the availability of physicians in hospitals in general.

Indeed, in accordance with the request of the task force chairperson to the Minister of Health, the final German Committee report included a recommendation on the formation of a professional team to propose mechanisms to facilitate the professional advancement of women in the healthcare professions.

The task force thinks that the Ministry of Health should form a permanent professional team to focus on the advancement of female physicians in the healthcare system, in full conjunction with the IMA. A team has been established in the Ministry of Health, but its precise mandate has not been defined yet.

In addition to the German Committee recommendations, the report of the Committee for the Advancement of Women in Civil Service headed by Dalit Stauber, then Director General of the Ministry of Education, and submitted in June 2014 to the Civil Service Commissioner and to the Israeli government, provided a comprehensive, in-depth discussion of the status of women in the civil service in general, with specific reference to the medical sector and the lack of women in managerial ranks.

The committee published a series of applicable recommendations to advance the status of women in civil service. These recommendations constituted important input for the task force and facilitated the formation of core principles and recommendations pertaining to the advancement of female physicians.

Based on the results and recommendations of these and other reports, and after comprehensive internal discussions, the task force decided on the following core principles and recommendations.

CORE PRINCIPLES

- The advancement of female physicians is a common interest for all genders. While women are at the forefront, all physicians should be involved.
- A discourse on gender equality in medicine begins with the premise that a facilitating work environment is key for all genders, and compliance with the high standards is required.
The playing field should be leveled to create equal opportunities for women, without compromising professional requirements.

- The recognition that feminization of the medical profession is a process with far-reaching repercussions for medical practitioners and patients will help assimilate gender as an element in planning changes and improvements in the healthcare system.
- Social and cultural changes in the family structure in Israel must be recognized as part of a global process. The latest discourse focuses on parental and family responsibilities shared by both partners, and the implications with regard to the work environment.
- Empowerment of female physicians is necessary to allow them to maximize their competencies and cope with challenges rather than avoid difficult choices.

RECOMMENDATIONS

- Adequate representation in managerial positions in the healthcare system:
  - The IMA must identify ways to inform its members, particularly female physicians, of tenders for medical management positions in the system. The association must coordinate a professional oversight mechanism for candidates.
  - Search and review committees for tenders in healthcare management positions should ensure adequate representation of all genders on committees, either by changing the procedures of the Civil Service Commissioner or by way of legislation.
  - The IMA should launch a mentoring project for young female physicians to learn from, and be inspired by, women in management positions. This guidance can be implemented by expanding the mentoring program already in place at the IMA or through the program described in the research proposal to the Ministry of Science and Technology [1].
  - The IMA should provide educational programs designed to empower and accompany women in medicine, such as management courses. These programs should be accessible to and conveniently scheduled for young female physicians.
  - In light of the requirement for overseas fellowships for advancement in managerial positions, the Scientific Council should review the fellowship programs in Israel, with emphasis on making them more attractive and accepted. At the same time, dedicated positions should be allotted for female physicians to undergo this type of training in Israel.

- Balancing family and career:
  - The Ministry of Health and the Civil Service Commission should take into consideration the diminished workforce that results from maternity leave and, as a result, be flexible when allocating positions to hospital departments. The allocation of additional positions to departments with a significant female majority should be considered.
  - Both the establishment of physician dormitories near hospitals, as well as financial incentives for housing near medical institutions (hospitals or clinics), should be investigated to shorten the transition time from workplace to home, and vice versa.
  - Hospitals should set up daycare centers and preschools for babies and toddlers, also operating in a limited format during off-hours, to allow physicians who are mothers to schedule work shifts and on-call duties.
  - Summer camps should be conducted and/or subsidized at reasonable prices for children of physicians.
  - Financing or subsidization of nanny services for children of physicians when the latter are on-call or working off-hours should be considered. Alternatively, the IMA should support an amendment to the tax laws to treat childcare expenses as a deductible expense for tax purposes.
  - The Scientific Council should review expansion of the part-time residency pilot to more specialties, with emphasis on those that have a pronounced minority of women (such as surgery).
  - The IMA should offer educational programs to female physicians when they return from maternity leave to provide them with the tools to return to work, with emphasis on time management and balancing work and parental responsibilities.
  - Adequate representation of women on residency acceptance committees should be considered to encourage the selection of more women in the various residency specialties.

CULTURAL CHANGE IN ORGANIZATIONAL PERCEPTION

An additional recommendation to appoint an advisor to advance the status of female physicians in the Government Hospitalization Authority was supposed to be established following the recommendations of German committee; however, the establishment of such an authority was abolished by German’s successor in office, Minister of Health Yaakov Litzman.

- The healthcare system in general, and its directors in particular, must recognize the external and internal barriers faced by female physicians in all stages of their career, and create a supportive environment to enable genuine equal opportunities for advancement and development. Accordingly, the general training program for department directors should include a study of gender in the medical professions as well as lectures on sexual harassment, gender bias in employment, and ways to create a friendly work environment. The program should include meetings with young and veteran female physicians. Lectures should be given on gender
equality in medicine in conjunction with the employers and the IMA.
- The distribution of positions, including unit heads and on-call and post-call managers, should be analyzed in every medical institution, with the distribution of positions balanced among the genders.

**LONG-TERM REPERCUSSIONS OF THE FEMINIZATION OF THE PROFESSION**
- The IMA and the Ministry of Health should focus on the feminization of the medical profession and include the process as part of the overall considerations in national workforce planning in medicine.
- Due to the lack of national studies on this subject, the IMA should conduct research to understand prioritization of women’s choices of residency specialties, from the earliest stages in the education and training process.

**FEMALE PHYSICIANS IN ACADEMIA**
The IMA should contact the Medical School Deans’ Forum and call for the formation of a joint team to review the advancement of female physicians in academia.*

**IMPLEMENTATION AND ENFORCEMENT**
The Ministry of Health should address, through a professional mechanism to be established based on the recommendations of the German Committee report and in conjunction with the IMA, the responsibilities of implementation each recommendation, including the setting of a timetable for performance, reporting and supervision mechanism, assistance and consulting in solving problems that arise during implementation, and spurring the relevant authorities to comply with the established timetables.

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**References**

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**Capsule**

**Thyroid hormone inhibits lung fibrosis in mice by improving epithelial mitochondrial function**

Thyroid hormone (TH) is critical for the maintenance of cellular homeostasis during stress responses, but its role in lung fibrosis is unknown. Yu et al. found that the activity and expression of iodothyronine deiodinase 2 (DIO2), an enzyme that activates TH, were higher in lungs from patients with idiopathic pulmonary fibrosis than in control individuals, and were correlated with disease severity. The authors also found that Dio2-knockout mice exhibited enhanced bleomycin-induced lung fibrosis. Aerosolized TH delivery increased survival and resolved fibrosis in two models of pulmonary fibrosis in mice (intratracheal bleomycin and inducible TGF-β1). Sobetirome, a TH mimic, also blunted bleomycin-induced lung fibrosis. After bleomycin-induced injury, TH promoted mitochondrial biogenesis, improved mitochondrial bioenergetics and attenuated mitochondria-regulated apoptosis in alveolar epithelial cells both in vivo and in vitro. TH did not blunt fibrosis in Pparc1α- or Pink1-knockout mice, suggesting dependence on these pathways. The authors concluded that the antibiotic properties of TH are associated with protection of alveolar epithelial cells and restoration of mitochondrial function and that TH may thus represent a potential therapy for pulmonary fibrosis.

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**“Testing can show the presence of errors, but not their absence”**

Edsger Dijkstra (1930–2002), Dutch computer scientist and an early pioneer in many research areas of computing science.