Bernardino Ramazzini and women workers’ health in the second half of the XVIIth century

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ABSTRACT
In the second half of the XVIIth century, pre-industrial society made extensive use of women’s work. In his treatise, Diseases of Workers, published in 1700, Bernardino Ramazzini explored health conditions of women employed in different production sectors, describing their health problems and providing advice and remedies. This paper aims at reviewing his observations for women employed in different occupations, entailing exposure to dangerous materials and ergonomically challenging works.

Keywords work environment

In the second half of the XVIIth century, Europe was slowly recovering from the demographic and economic turmoil that followed the 1630–31 and 1656–57 epidemic of plague. To meet growing demand for food products, textiles and construction, the pre-industrial society of this era made extensive use of women’s work.1

Although at that time communicable diseases represented a major health problem, illnesses of people working in poor conditions attracted the interest of an Italian doctor and academic,2 who described the association between workplace and health problems.3 Among the most vulnerable workers, Ramazzini paid particular attention to the relationship between working activities and women’s diseases, sex related or not, that constituted a heavy burden in women’s lives.

This paper aims at reviewing his observations on health disorders of women employed in different occupations exposed to dangerous substances or involving ergonomic concerns. In the second half of the XVIIth century, Ramazzini’s approach highlighted the importance of social and environmental influence on health and provided insights that are still relevant today.

Breast cancer and women’s jobs
Among sex-related conditions, Ramazzini explored working conditions and job-related risks of typical women’s jobs, such as midwives, wet-nurses and nuns. In Chapter XX [Diseases of wet-nurses, pages 167–201, (Fig. 1)] he observed that
‘...cancerous tumors are very often generated in women’s breasts, and tumors of this sort are found in nuns more than in any other women. Now these are not caused... by their celibate life. For I have known several cases of nuns who came to pitiable end from terrible cancers of the breast’,
thus anticipating the observation of the relationships between nulliparity and hormonal status of women.4

Dangerous materials
However, most observations dealt with women’s health problems independent of sex. He explored health conditions of women employed in several different production sectors.

Giuliano Franco, Professor of Occupational Medicine
Starch was a mainstay of women's laundry work. In Chapter XXIII (Diseases of starch-makers, pages 237–241) Ramazzini explained that

‘starch is much used in almost every house . . . to whiten and stiffen their linen so that it may be adorned with various pleats and folds’

and observed that

‘the experience of women has made me very suspicious as to the real nature of starch, so that we must not trust too much to its dazzling whiteness’.

Moreover, he reported that

‘. . . women who are in charge of this task often notice that when linen garments have been kept for some time with the starch in them, they soon begin to wear through’.

Since the environmental exposure to starch

‘. . . may very well cause headache, dyspnoea, and a cough, for nothing is more inimical to the delicate structure of the lungs and to the membranes in general than an acid exhalation’,

he suggested that preventive measures should be undertaken

‘. . . to carry on this sort of work in a sunny and, if possible, spacious place, not in confined quarters’.

More in general, Ramazzini warned about hazard of chemicals remarking that

‘We may be sure that there are many things in general use that are supposed to be harmless because they introduce their poisons gradually and with stealthy foot, until some accident plainly shows their hidden harmfulness’.

Ramazzini’s observations on dangerous substances anticipated the current knowledge on the health effect deriving from exposure to a variety of chemicals in workplaces and living environments.5

Ergonomical concerns

Ramazzini paid great attention to working conditions of those who did fine work, among whom he identified the women needlework (Chapter XXXVII, Diseases of those who do fine work, pages 323–329). He accurately described working conditions:

‘This work compels . . . to apply the eyes closely, also all women keep at their sewing the whole day and far into the night, using a small lamp with the merest thread of wick and feeble light, like that of lamps of tombs’,

and health problems:

‘Hence they incur all the disorders due to a sedentary life and moreover in curse of time they suffer from serious weakness of vision’.

These remarks anticipate the modern findings suggesting that visual discomfort is characterized by accommodative fatigue at a near viewing distance.6
On the basis of the observed association, he provided some rational advices on resting and limiting working activity:

‘...it would help such workers very much if they would give up the habit of keeping the head constantly bent and the eyes fixed on what they are making... The women, especially those who sew incessantly, should steal some hours from work, for the sake of their health and to renew their strength; they should know when to give their hands and eyes a rest, when to stop...’

Furthermore, women needleworkers, as well as other sedentary workers, are advised to take physical exercise, at any rate on holidays. Let them make the best use they can of some one day, and so to some extent counteract the harm done by many days of sedentary life.

Currently, there is a growing body of evidence that a sedentary lifestyle may be a health risk factor independent of physical activity.7 It is remarkable, however, that at the end of the VII century, when limited food resources were available for most people, a scholar advised his patients to take physical exercise to counteract the damages from a sedentary behavior.

In Chapter XXXVIII (Diseases of voice-trainers, singers and the like, pages 329–335), Ramazzini described health disorders, mainly voice problems, among individuals employed in a variety of jobs requiring prolonged use of voice, as singers, monks, nuns, lawyers, philosophers and others. It is well recognized that individuals employed in occupations where voice use is central are at risk of voice disorders. However, the best treatment is still debated.8 The difficulties in treating voice disorders were already observed by the scholar, who admitted that the usual remedies of his time were not effective:

‘such as ointments, cerates, and plasters are ridiculous’,

and suggested simpler treatments:

‘fresh-water baths will be a great help for keeping the voice in good condition and softening it when it has become rough’,

concluding that:

‘the only sort of precaution that might help them is to avoid excess and take a rest from this sort of work...’.

Textile homework

In the pre-industrial era, textile manufacturing was based on homework, thus facilitating the employment of women.1 In Chapter IV Supplementum (Diseases of weavers, pages 431–435), Ramazzini reported that

‘Nowadays women sit to weave, but in such posture that they somehow look as though they were standing. This kind of work is certainly very fatiguing, for the whole body is tasked, both hands, arm, feet, and back, so that every part of the body at once shares in the work’,

and described the health risk associated with those working conditions:

‘they easily miscarry and expel the fetus prematurely and in consequence incur many ailments later on’.

The relationship between physical activity and the occurrence of spontaneous abortion is presently well established.9

Finally, Ramazzini suggested that to prevent such threat,

‘...in work so taxing moderation would be the best safeguard against these maladies, for men and women alike; for the common maxim “Nothing in excess” is one that I excessively approve’.

Conclusion

So much for the observations of Ramazzini, who described more than three centuries ago various disorders associated with women’s work. Globalization of world trade and technological advance have changed context and work practice, exposing people to new, sometimes more subtle, health risks. As a result, the most vulnerable workers suffer increasing health disparities. While research on these disparities has been hampered by methodological problems,10 Ramazzini’s approach serves as a model. More than three centuries ago, he looked beyond women’s reproductive systems to document the effects of environmental and social conditions on their health and provided insights that are still relevant today.

References


