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Functional Health of Women

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MISCELLANY AND NOTICES.

FUNCTIONAL HEALTH OF WOMEN.

The American Girl of Today. By Geo. J. Engelmann, M.D. President's Address American Gynecological Society, Washington, D. C., 1900. *American Journal of Obstetrics*, vol. xlii, No. 6, p. 44.

The purpose of this paper is the study of the conditions which interfere with a healthy performance of the female function during the great waves of sexual life; and particularly the effect of school and college life upon that function. Puberty, menstruation, labor and the menopause are the undulations which characterize the functional life of woman. The investigations of Mayer, De Boismont, Joulin, Weber and Radzewitch have shown that wealthy and city-born women are more precocious functionally than poor women or country women. The average age at which menstruation begins in the American born woman is 14.3 years, as shown by Dr. Emmet, Dr. Chadwick of Boston, and as corroborated by Dr. Engelmann from 6549 cases in the southwestern States. Working girls of Boston attain puberty at 14 years. High and Normal School girls at 13.8, and college girls at 13.5.

Susceptibility to infectious and fatal disease is reduced to a minimum, and mortality is at its lowest in the pre-pubertal period, as shown by the U. S. census and by data from Hartwell and Bowditch charted by the author. Data from Danish schools collated by Axel Key indicate that while mortality is lowest, morbidity and life intensity are highest just preceding the beginning of menstruation.

Anatomical, physiological and pathological facts demonstrate that the wave of the pubertal period and of the menstrual function are similar in kind, varying only in degree. The activity of every function with the exception of nerve excitability, is intensified before the appearance of the flow. During pregnancy and labor there are similar conditions, but this wave is of longer duration and of greater intensity. The investigations quoted are sufficient to demonstrate that the waves of the pubertal and menstrual period are identical

in their causes and results and are accompanied by a disturbed equilibrium of the entire system.

In view of these facts it is important to study the conditions under which the functional life of American girls between 15 and 26 years develops. The importance of the inquiry is indicated by the presence of 374,487 young women in colleges and high schools and of probably over one million under 20 years of age in the industries.

Dr. Engelmann's records of 4873 cases of young women during adolescence, with their previous menstrual history, suggest the following conclusions: That physical conditions and nerve influence have a marked effect upon the *regularity, frequency and amount of accompanying pain*, both direct and reflex, of the menstrual period. The effect of mental strain and application is evident in increased frequency, while change of conditions and surroundings delay the appearance of the flow, as shown by the reports of different schools. In the freshman year at college there is greater irregularity, with marked infrequency due to violent change of habits and surroundings. The strain of examinations, mid-years and finals, is registered, either in a greater frequency or in retardation, more frequently the latter, but always in irregularity. Irregularity is found in over 50 per cent of those in school and college. While retardation appears to characterize college life, greater frequency characterize normal school life. Physical training appears to regulate favorably to a certain degree both frequency and duration.

Severe suffering exists in from 11 to 18 per cent of all cases and some discomfort in from 30 to 95 per cent. Greater suffering is found among business women, varying from 78 to 91 per cent, depending on the kind of business. In general, the percentage of suffering is greater in the more advanced classes of schools and colleges, but a certain number record better general health and that severe suffering grows less. In the working girl, however, severe suffering increases. All cases report increased difficulty of work, both mental and physical, during the menstrual period,— the working girl again suffering most.

While from 14 to 30 per cent are habitually or occasionally excused from study or work at this time, fully 50 per cent continue pleasurable exercise, such as dancing, wheeling and skating, while some even follow active sports. This perhaps more than the strain of mental work increases suffering.

Charts V, VI and VII, collated wholly from foreign data, show the distinct relation of morbidity, *i.e.*, of minor ailments, to the time of first menstruation and the increase of morbidity with increase of hours of study.

Dr. Engelmann's own contribution to the subject appears to be a statistical corroboration of the fact, long accepted by physicians and educators, that young unmarried women suffer an extraordinary degree of pain and discomfort from the menstrual function; that they are seldom habitually well, and that this is true, though in varying degree, both of girls at schools and of girls at work. He shows that the only significant reduction of the percentage of suffering appears in those who have a large amount of gymnastic exercise.

The entire absence of any mention of the effect of change of climate on the menstrual function seriously obscures his results. The resident physicians in charge of young women in colleges are accustomed to attribute a large part of the irregularities of function in freshmen to this cause. This view is corroborated by the common experience of women who travel abroad or to any widely different climate. A large proportion of college girls and of girls in boarding schools and normal schools experience a considerable change of climate in coming away from home, while the high school and working girls, noted in the totals, probably do not suffer this particular element of disturbance. The return to a normal period in vacations, mentioned by Dr. Engelmann and noted by all observers, may be quite as much due to a return to the home climate as to the cessation of mental application.

Again, race differences are wholly overlooked in the use of the phrase "American born." The native American girl of several generations of New England ancestry will probably give a very different menstrual history from that of the native born of Irish, German, Italian or Slavic parentage. Working girls of peasant ancestry should presumably suffer less menstrual discomfort.

To establish the injurious effect of mental application on the menstrual function, it would be necessary to compare through a sufficiently long period, the menstrual habits of young women of the same average age, in the same climate, of the same general race constituency; the one set in school or college, the other in social and domestic life. Dr. Engelmann has only corroborated a mass of testimony as to the general discomfort of young women of two general

classes; he has not differentiated the factor of mental application from that of clothing, physical inactivity, mal-nutrition, nor from hereditary causes. All of these have been emphasized by many investigators as producing pathological conditions in women.

Amenorrhea and dismenorrhea, due to violent emotion and to physical causes, particularly cold and excessive fatigue, are frequent phenomena in the lives of women of all classes and ages, both in and out of school, both married and unmarried — at least in the United States. It would seem that a statistical analysis of these interacting conditions, to show their relative weight in producing menstrual disturbance, would be the most important contribution which could be made at the present moment to the physiology and hygiene of women.

Dr. Engelmann suggests, but does not sufficiently emphasize, that deterioration in menstrual health is a "sequence of college life, directly and indirectly, not due altogether to undue strain, but to the combined influence of habits of life and methods of training" (p. 787). . . . "That pupils in the Normal School for physical training should appear with 71 per cent (of suffering) would seem inexplicable as these are young women under the best possible conditions, with an apparently most favorable combination of mental and physical work" (p. 779).

A few quite untenable statements show a lack of intimate knowledge of girls' school life; for instance, that "studies are not pursued with too great vigor in the freshman year at college" (p. 775); and (p. 779) that "girls already broken down frequently undertake this course (in Normal School) for the purpose of restoring health wrecked in previous occupations." This latter statement may be true of a particular normal school, but is certainly not generally true of that class of schools.

Some statistical tables are defective (p. 776), because of absence of numerical basis of this class exhibited; others (p. 778), because the classes to be compared are not averaged together after being presented in order of percentage importance. The remedial suggestions, though not new, are valuable because based upon so large an amount of experience and such a variety of data, both European and American.

Dr. Engelmann emphasizes especially the value of physical training. He further offers the preventive solution in "reasonable hours

of study; in mental training adapted to physiological possibilities, and a regard for woman's sensitive organizations." He properly emphasizes as the first step toward betterment, "knowledge of woman's functional life,—by physician, educator, and mother, and by the girl herself."

MARY ROBERTS SMITH.

MONTHLY BULLETIN OF THE STATISTICS DEPARTMENT
OF BOSTON.

Reviews of the special reports in *Bulletins* 1 to 9, vol. i, may be found in the December, 1899, number of the *Publications*; notices of reports in *Bulletins* No. 10, vol. i, to No. 8, vol. ii, appeared in the issue of September, 1900.

VOL. II, No. 9, SEPTEMBER, 1900.

This bulletin contains two articles in the appendix: (1) "Tax-Rates of Massachusetts Cities, 1880-99," and (2) "Analysis of Loans Issued, 1893-94 to 1897-98."

(1) *Tax-Rates of Massachusetts Cities, 1880-99.*—Three tables show the annual tax-rates of all the cities of Massachusetts, from 1880 to 1899, the variations in these rates, and the average tax-rates of all cities for periods of five, ten, and twenty years.

The following table is a summary of the table showing the *Variations of Tax-Rates of the Cities, 1880-99*:—

Tax-Rate.	One-Year Periods.			Five-Year Periods.				Ten-Year Periods.		Twenty Years.
	1880.	1890.	1899.	1880-84.	1885-89.	1890-94.	1895-99.	1880-89.	1890-99.	1880-99.
Over \$19...	6	1	7	20	8	4	17	28	21	49
\$18 to \$19..	2	..	4	17	17	12	22	34	34	68
\$17 to \$18..	3	6	8	19	27	28	40	46	68	114
\$16 to \$17..	6	6	7	33	34	34	38	67	72	139
\$15 to \$16..	7	7	4	29	24	43	25	53	68	121
\$14 to \$15..	4	7	..	19	21	22	4	40	26	66
Under \$14..	4	5	2	23	29	17	14	52	31	83
Total Cities	32	32	32	160	160	160	160	320	320	640