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AN ANALYSIS OF 3000 CASES OF MELANCHOLIA.

By S. WEIR MITCHELL, M.D.,
OF PHILADELPHIA.

While studying melancholia I observed that certain cases seemed to be apt to relapse in the spring or summer, and I desired to learn if this tendency applied to the onsets of such cases as come but once in a life or to those which repeat themselves at irregular intervals far apart in time.

With these points in view I searched the literature widely, but could obtain no satisfaction beyond vague, general statements. I asked Dr. John B. Chapin, of the Pennsylvania Hospital for the Insane, to let me have a list of dates of admission for melancholias, and I also requested Dr. Robert Chase, of Frankford, and Dr. Henry Hurd, of Johns Hopkins, to give me their views as to the matter. While the results thus obtained are interesting, they show the need for further study.

Dr. Chase writes:

"In reply to your letter of the 24th instant, I hasten to say that in 2220 admissions at Norristown, covering a period of five years (of whom about 30 per cent. were subjects of melancholia), a larger number were received in the months of April, May, and June, and again in August, than during any other months of the year. The smallest number were admitted in October, November, and February. This, I think, conforms quite closely to general statistics on the subject.

"The result of my observation in seasonal recurring melancholia is that relapses are more prevalent in the spring, reaching the maximum in June. This also is in confirmation of statistics respecting suicides, that the wave of accession reaches floodtide in June."

Dr. Hurd writes:

"My impression is that at the North we are more apt to get melancholias in the winter, especially when the vitality of feeble patients has been de-

pressed by unexpected or long-continued cold weather. I remember in a general way when I was in Michigan we always expected a large number of cases of melancholia in the months of January and March.

"As to recurrence of melancholia, I am not able to speak with so much certainty. Recurrent cases do not seem to follow any special law, but develop irregularly."

I give next Dr. Chapin's statement of 680 dates of admission of melancholias to the Pennsylvania Hospital for the Insane:

TABLE I. *Admissions covering a period of thirteen years.*

	Men.	Women.	Total.
January	24	37	61
February	21	39	60
March	28	25	53
April	24	27	51
May	18	41	59
June	25	44	69
July	23	35	58
August	20	36	56
September	22	37	59
October	20	32	52
November	19	32	52
December	16	34	50
Total	260	420	680

Here the numbers teach us little, as a glance at the figures will show. June seems to offer the largest number. So many conditions in the various social classes determine the dates of admission that I am puzzled how usefully to employ these statistics.

Seeing that this table gave no distinct results as to the influence of seasons, I asked permission of Dr. Chapin to have studied the dates assigned for the time of origin, feeling that hospital notes might afford a reasonable approach to accuracy in fixing the time of beginning of the neurosis. They are, of course, liable to many innocent misstatements, and must, I fear, be always open to criticism; but less and less so, as increasing care is given to the matter by the asylum physicians.

Dr. Chapin kindly permitted my assistant, Dr. Pearce, and my stenographer to examine and collect from his books 3037 cases diagnosed as melancholias; 1780 were women, 1257 were men. The time covered lies between 1841 and 1896, as shown in Table II.

TABLE II. *Months of origin of melancholias.*

	1257 Cases Male.	1780 Cases Female.	Combined Cases.
January	79	127	206
February	116	153	269
March	120	151	271
April	118	168	286
May	104	156	260
June	100	166	266
July	106	145	251
August	86	162	248
September	109	115	224
October	93	137	230
November	104	145	249
December	122	155	277
Total	1257	1780	3037

In this list the largest number of male cases is for December, but the numbers vary little except for August, which falls to 86. The largest number of female cases is in April, the smallest in January.

In Table III. the percentages are calculated, and in this shape the comparison is more easily seen.

TABLE III. *Percentage of occurrence of melancholias by months.*

	Male Cases, 1257.	Female Cases, 1780.	Combined, 3037.
January	6.285	7.135	6.783
February	9.229	8.595	8.857
March	9.547	8 483	8.923
April	9.338	9.438	9 417
May	8.228	8.764	8.567
June	7.956	9.326	8.758
July	8.448	8.146	8.251
August	6.845	9.101	8.166
September	8.625	6.461	7.385
October	7.399	7.697	7.573
November	8.288	8.146	8.199
December	9.702	8.708	9.121

April gives, of the total men and women, 9.417 per cent., and December comes next—9.121 per cent. Too much may be made of such a table. It serves to make clear, however, how very small is the difference of time of origin. The late winter and early spring months seem to offer most cases. I confess myself surprised at the want of more differing results for the several seasons.

While thus employed my assistants took note of some other matters which proved to be quite worth this trouble. One was a table, which I do not print, of the causes assigned as parents of melancholia. This table satisfies me that some very carefully planned measure is needed to bring this matter into useful form.

I am told that the Psychological Society of North America has a committee thus engaged, and, with this knowledge, to criticise would be unnecessary and without useful end.

An effort was made to state the duration of melancholias in 422 cases where the time was noted, and Table IV. shows the continuance of the disorder previous to admission, as stated by the friends. This statement as it stands is a strange record, and appears to show how many cases remained at large after the onset of the disease before they were placed in the institution. Possibly a large percentage had been in other asylums, and the table has no serious value.

TABLE IV. *Duration of attack at time of admission.*

	Males.	Females.
One month or over	1	0
Six months	2	2
One year	88	83
Thirteen months	0	1
Fifteen months	0	1
Eighteen months	6	8
Two years	44	51
Two and one-half years	8	1
Three years	26	19
Three and one-half years	2	1
Four years	6	16
Five years	9	8
Six years	6	8
Seven years	0	1
Eight years	3	1
Nine years	1	0
Ten years	3	5
Thirteen years	0	1
Fifteen years	2	0
Sixteen years	1	0
Twenty years	2	0
Twenty-two years	0	1
Twenty-four years	0	1
Twenty-six years	0	1
Thirty years	1	0
Thirty-one years (case of trauma)	1	0

TABLE V. *Comparative percentage of cases by decades.*

	Male.	Female.
Under twenty years	$3\frac{7}{10}$	$6\frac{1}{5}$
Between twenty and thirty years	$26\frac{4}{5}$	$26\frac{2}{5}$
Between thirty and forty years	$27\frac{3}{5}$	27
Between forty and fifty years	$20\frac{1}{5}$	$21\frac{2}{5}$
Between fifty and sixty years	15	$14\frac{1}{5}$
Between sixty and seventy years	$5\frac{2}{5}$	$4\frac{1}{5}$
Over seventy years	$1\frac{3}{10}$	$\frac{3}{5}$

This comparison of ages is most striking, and the correspondence in age in the two sexes is well worth attention. The cases in both sexes might have been better grouped, so as to bring out the influence of the menopause; nevertheless, even as at present arranged it is valuable, and confirms statements from other asylums; also it leads to the observation that in men the percentage between forty and fifty years is $20\frac{1}{5}$, and in women but $21\frac{2}{5}$. Or, if we take the years from fifty to sixty, the percentage of male cases would be 15, and of female cases $14\frac{1}{5}$. These two sets of figures seem to dispose of the idea that women are more liable to melancholia at or about this critical period. But in order to get at this even more precisely I had the percentage calculated for the years from forty-five to fifty-five, with a result which shows practically no difference from the statement for the decade from forty to fifty.

Again, if we consider the whole table, it would appear that the time of greatest liability is for both sexes between twenty and sixty years, but under twenty it is relatively nearly double for women.

In further confirmation of the fallacy of attributing melancholia to the menopause, I append some statistics furnished by Dr. Ely Josselyn, of the Pennsylvania Hospital for the Insane.

New York State Lunacy Report, Table III., p. 526.

From 1888 to 1894 there were 16,208 admissions, of which 7475 were women. Of this number, 282 cases were attributed to the menopause—less than 4 per cent.

In five asylums in Massachusetts, Worcester, Taunton, Northampton, Danvers, Westborough, we note the following:

In 1895–'96.

Worcester 292 admissions, of which twelve were attributed to the menopause—4 per cent.

Taunton 209 admissions; three attributed to the menopause—less than 2 per cent.

Northampton ninety-four admissions; two attributed to menopause—less than 3 per cent.

Danvers 218 admissions; seven attributed to the menopause—less than 4 per cent.

Westborough 276 admissions; four attributed to the menopause—less than 2 per cent.

At McLean Hospital, of sixty-three admissions two were attributed to the menopause—less than 3 per cent.

In the Connecticut Hospital for the Insane since its opening, in 1868, of 3607 admissions eighty-six were attributed to the menopause—less than 3 per cent.

In the reference above it is clearly shown that of all insanities recorded in these institutions only about 2 per cent. were attributed to the menopause. If this obtains in general insanities, the question arises how large a factor the climacteric is in melancholias alone.

Through the kindness of Dr. Moulton, of the Pennsylvania Hospital for the Insane, I append the following extract from the *United States Tenth Census Report:*

Of the 27,105 cases of insanity tabulated by the Tenth Census, there was one male lunatic to 574 persons, and one female lunatic to 518 persons.

While this would seem to contradict the assertion that more men are insane than women, it must be remembered that more men die of paresis than women. More women are found in hospitals than men because not many female cases are fatal.

In seven hospitals in Massachusetts (a State where there are more women than men in the general population) out of 63,525 people the commitment of men exceeded that of women by 605.

TABLE VI. *Number of cases having had prior attacks*—672.

	Male.	Female.
One prior attack	168	277
Two prior attacks	38	99
Three prior attacks	18	28
Four prior attacks	11	15
Five prior attacks	3	4
Six prior attacks	2	0
Seven prior attacks	2	0
Eight prior attacks	2	0
Nine prior attacks	2	1
Ten prior attacks	0	0
Eleven prior attacks	0	0
Twelve prior attacks	0	0
Thirteen prior attacks	0	1
Total	246	426

I felt too doubtful of the value of these statements to think it worth while to work out the percentages. Females seem more liable to recurrence of attacks than men.

Of the number of cases under consideration (3037) the age was given in 2547 instances, and the averages are given in the following table:

TABLE VII. *Age of occurrence of melancholias.*

Average age of males	$37\frac{1}{5}$
Average age of females	$36\frac{1}{4}$
Oldest male case	76
Oldest female case	78
Youngest male case	10
Youngest female case	12

Considering the very different conditions under which the lives of the two sexes are passed, this close relation as to time of liability to attacks is interesting.

I thought some of the points made plain by these tables valuable enough to make it worth while to print them; but I have been cautious about inferences, and should like to see what I have attempted worked out on a larger scale by the publication of the records of a number of hospitals, and for all the distinct types of insanity.

I have the privilege of using my friend Dr. John B. Chapin's valuable comments on these tables. These relieve me from the need to say anything further; they are of remarkable interest. Dr. Chapin says: "I hardly like to venture any criticism, or even to make suggestions, about a work on which you have expended so much time.

"As for the table showing the seasons at which melancholias make their appearance, I think it is, as you say, negative of all results, except in showing that there is no 'seasonal melancholia.'

"As to the date of attack, the hospital and the physician preparing the certificates for admission depend mainly for the history of the case upon the friends of the patient, only some of whom are intelligent, and even these are often not correct observers. Therefore, the date of the insanity is usually fixed at the time some open manifestation takes place, and no account is taken of the incipiency which may have been in operation for months. As your tables are the first contribution in the line of this inquiry, they must be accepted as of

authority, although it should be remembered that they are based largely upon the admissions to a hospital receiving patients from a city population in the latitude of Philadelphia. The dates which make up your table are all that are accessible for this locality.

"I entirely agree with you about the small value the table of assigned causes has in this relation. I have never attached any importance to any table of this character that I have seen published. It is usual to enter in the case-book the 'assigned cause' of insanity furnished by the friends as a part of the history of the case. It is not always the cause which the physician would assign. To estimate the cause of any insanity is such a complex operation that sufficient time cannot be given to the analysis of every case to make the results of value. For my own convenience I have sometimes made a classification depending upon whether the disease was supposed to be recoverable or irrecoverable; whether acquired or due to organic degeneration.

"Table IV. is valuable as showing approximately how long such patients are at large before admission to an institution. It is useful, too, in giving some idea of the duration of the disease, and it is again the only information obtainable in this direction.

"Table V. I consider the most valuable contribution to knowledge which your paper furnishes. In the first place, you have established by Table II. that more men are sent to hospitals with melancholia than women, and it is true that more men become insane than women.

"The estimation of the occurrence of melancholia in the years between forty-five and fifty-five shows that the climacteric period, which all women dread who have a predisposition to insanity or to any neurosis, exerts but little influence upon this condition; an equal number of men and women become insane at this period. In this connection I may remark that the expectation that insane women are to recover at the climacteric period is equally fallacious. This fact, which I am not able to verify by statistics, is difficult to prove, but I am quite assured of its truth from observation, and you may as well explode the tradition as anyone else. The decades following fifty show an increased percentage for men, and this might be expected, as the known fact is that more men become insane than women. The facts shown by this table are worth all of the labor you have bestowed upon your paper."