

Observations on the Periodicity of Births, shewing the total Number born in each Month; the Number of Premature Children, the Sex, &c. &c.; the Number of Still-born Children, and Children dying; also with regard to the Death of the Mothers, and the most important Complications met with in Delivery, deduced from the Experience of 16,654 Cases. By ROBERT COLLINS, M. D., late Master of the Dublin Lying-in Hospital.

[Read at the Meeting of the British Association, held at Bristol, August, 1836.]

In laying the present brief communication before the members of this Association, I beg to state, that it is an addition to the numerous tables and calculations in connexion with this subject, which I had the honour of submitting to their notice at a previous meeting. It is taken from a registry kept by me in the Lying-in Hospital of Dublin, with every possible attention to accuracy, and extends over a period of seven years, commencing November, 1826, during which 16,654 births took place. I have little doubt that conclusions drawn from so extensive a record, are calculated to shew with great precision, the objects contemplated, and trust, in this instance they may be found useful, as affording correct information on many points

* This paper was read at the meeting of the British Association held in Dublin last year, 1835, and an abstract of it is published in the "Notices of Communications to the Association of that year."

hitherto not similarly noticed in any work with which I am acquainted.

The following condensed table exhibits the *total* number of children born in each month; the *sex*; the total *premature* children monthly; *premature first* children; total *first* children monthly; *premature males* in each month, and the number of *first children males*.

In thirty-seven of the 16,654 births, the sex of the child from various causes was not noted, therefore they were not included.

Months.	Total Children born monthly.	No. of Males in each Month.	Premature Births in each Month.	Premature first Children.	Total first Children.	Premature Males in each Month.	No. of first Children Males.
January,	1493	761	39	18	418	23	209
February,	1315	676	34	10	366	19	190
March,	1475	754	38	15	410	17	216
April,	1382	738	43	12	405	17	225
May,	1375	701	44	14	417	19	203
June,	1352	702	42	10	391	24	216
July,	1389	747	41	17	405	24	221
August,	1366	718	49	14	440	28	234
September,	1367	686	34	13	407	16	220
October,	1371	663	54	22	434	26	227
November,	1369	701	34	13	472	19	254
December,	1363	701	46	14	422	23	207
Totals,	16617	8548	498	172	4987	255	2622

Of the 16,617 noted, 8548 were males, and 8069 females; which is nearly in the proportion of *eighteen* males to *seventeen* females.

Four thousand nine hundred and eighty-seven were first children;* which is 1 in about 3 $\frac{1}{4}$. 2622 of the 4987 were males, or 1 in 6 $\frac{1}{2}$; and 2365 females, or 1 in 7.

Four hundred and ninety-eight of the 16,617 children were premature births, or 1 in 33 $\frac{1}{2}$; 293 of the 498 were still-born, 231 of which were expelled in a putrid state; 255 of the 498 were males.

One hundred and seventy-two of the 498 premature children were first pregnancies, or 1 in 96 $\frac{1}{2}$. Ninety-six of the 172 were still-born, eighty of which were putrid; forty-two of the eighty were males; of the sixteen not putrid, seven were males.

Four hundred and eighty of the 16,617 were twin children; 245 of which were males; fifty-four of the 480 were premature births, and 144 were first pregnancies. Of the fifty-four premature, twelve only were first pregnancies.

In order to ascertain the results at *different periods* of the year, with regard to most of the above calculations, I divided the years into *quarters*, as given in the succeeding table:

Quarters.	Total Children born quarterly.	No. of Males.	Premature Births.	Premature first Children.	Total first Children quarterly.	Premature Males quarterly.	No. of first Children Males.
Jan. Feb. March,	4283	2191	111	43	1194	59	615
April, May, June,	4109	2141	129	36	1213	60	644
July, Aug. Sept.	4122	2151	124	44	1252	68	675
Oct. Nov. Dec.	4103	2065	134	49	1328	68	688
Totals,	16617	8548	498	172	4987	255	2622

* In this calculation there is a slight variation from that given in my practical treatise, owing to some of the twin-births not having been reckoned.

Thus it appears that a somewhat greater number of births occur in the three *first* months of the year, and the proportion of *premature* births is diminished; yet when we look to the vast number of deliveries, the table exhibits a striking similarity in the separate calculations at these several periods.

In the *still-born* children in like manner, as given below, it is singular how nearly identical the numbers are throughout the year; thus proving that the temperature of the atmosphere little influences these occurrences in our climate. This similarity is not observed in situations exposed to greater extremes, where the proportion of *still-born* children is much increased in the *winter* months; as observed by Quetelet in Flanders, and Caspar in Prussia.

The following table fully proves the correctness of the opinion advanced by Professor Graves in his interesting observations on the subject of still-born children, as to the "mildness of our winter making the difference between the number still-born in the two seasons trifling."*

The total number of children *still-born* in the Dublin Lying-in Hospital during the seven years the medical charge was intrusted to me, was *one thousand one hundred and twenty-one*; thus eighty-four occurred in January, and so on:

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
84	74	91	93	85	95	98	97	98	117	83	106

These calculations, containing the result of 16,654 births, and at the same time extending throughout so many years, may safely be considered as affording the best possible information as to the *periodicity* of this occurrence with us.

* Dublin Journal of Medical Science, &c., January, 1836, vol. viii.

The following statement with respect to children *dying* in the hospital, exhibits a similarly near approach at all seasons of the year; thus, of the total number 284, twenty-six died in January, &c.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
26	19	24	25	23	20	25	20	23	30	24	25

The following table shews the periods at which the several *women* died during my residence in the hospital. The total number was 164; of these eighteen died in January, &c.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
18	20	10	13	17	15	6	11	15	11	16	12

Here the *monthly* results are, in some instances, widely different as to the average mortality, compared with the number of births; thus, for example, in February the deaths were twenty, and the births 1315, or in the proportion of one in $65\frac{3}{4}$; and in July the deaths were six, the births 1389, or one in $231\frac{1}{4}$. The variation, where considerable in this table, was caused by the occurrence of puerperal fever; otherwise little or no dissimilarity would have been noticed.

In order to ascertain accurately the result as to *periodicity*, with respect to the most frequent as well as the most important *complications* met with in delivery, I have taken the dates from my registry, and arranged them in tables in the following order:

LABOURS COMPLICATED WITH HÆMORRHAGE OF EVERY VARIETY

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
9	9	12	8	12	10	17	14	9	11	9	11

Here we observe a considerable increase in July, and nearly the same amount in August, which might perhaps be attributable to the elevated temperature of the atmosphere at this season of the year; as the more heated the patient is during labour, the more likely is hæmorrhage to appear. The result, if *fact*, should be a salutary caution as to the necessity of adopting *additional measures* to keep our patient cool in sultry weather and warm climates. Of the 131 cases of hæmorrhage, twenty-four occurred between the sixth month and birth of the child; of these thirteen were accidental and eleven unavoidable.

The following table shews the period of the occurrence of the hæmorrhage.

ACCIDENTAL.								UNAVOIDABLE.									
February.	March.	April.	May.	June.	August.	October.	November.	December.	January.	February.	March.	April.	June.	August.	September.	October.	November.
1	1	1	2	2	2	1	1	2	1	1	1	1	2	1	1	1	2

Sixty-four of the 131 between the birth of the child and expulsion of the placenta; thus five in January, &c.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
5	3	7	3	6	3	12	7	6	5	3	4

Forty-three of the 131 subsequent to the expulsion of the placenta.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
3	4	3	3	4	3	5	4	2	4	3	5

LABOURS COMPLICATED WITH CONVULSIONS.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	2	4	1	2	0	5	1	4	3	2	5

In this attack much irregularity is to be remarked, and that without regard to season; so that even with respect to periodicity, we are unable to discover any trace as to the *cause* of this obscure disease.

LABOURS COMPLICATED WITH RUPTURE OF THE VAGINA OR UTERUS.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	2	4	3	2	2	3	3	7	3	3	1

January, December, and September vary considerably from other months in this instance; yet where the cases are not *numerous*, a longer period than seven years would be necessary to arrive at a satisfactory conclusion; nor is this an event likely to be affected by the period of the year.

LABOURS COMPLICATED WITH TWINS.

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
22	17	21	18	20	24	33	22	18	15	18	12

In these calculations, July and December exhibit the greatest extremes, the former being nearly three times as prolific as the latter; thus indicating *November* to be the most fruitful month in the production of twins, and *April* the least. We also find by the quarterly calculation, that the last is much deficient; the numbers being 60,—62,—73,—45.

Such are the various occurrences, the *periodicity* of which it appeared to me, when taken from so extended a series of observations, might prove interesting; and which, as a record of *facts*, I am desirous to publish.

The most minute particulars, as well as a full detail of the cases on which the tables are based, will be found in my "Practical Treatise on Midwifery," lately published.