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## RESEARCH LITERATURE ON PRADER -WILLI SYNDROME A SCIENTOMETRIC STUDY

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**ABSTRACT:** Prader-Willi Syndrome (PWS) is a rare genetic disorder. It causes poor muscle tone, low degrees of sex hormones, and consistent sentiment of craving. The piece of cerebrum that controls yearning does not work appropriately in individuals with PWS. The gorge, prompting weight. There is no remedy for PWS exercise and dietary supervision can help fabricate bulk and control weight. le with PWS need particular consideration and supervision for the duration of their lives. The information is gathered from the PubMed database utilizing watchword search from the year 2009 to 2018 absolutely for a long time; the gathered information is masterminded in exceed expectations position for simple examination. Aggregate of 1381 writing is distributed from the year 2009 to 2018; in the year 2016, the most elevated number of 172 articles are distributed. In the year 2015, an aggregate of 154 articles distributed, and in the year 2018, an aggregate of 145 articles distributed. A minimal number of articles distributed in the year 2009 aggregate of 107. Origin example uncovers that five writers contributed an aggregate of 172 articles; at that point by four writers 167, third by triple writer contributed 159 articles. The single writer contributed 87 articles. The positioning of the positioning writer as indicated by origin design Multiauthor contributed 643 articles Rank 1, second by five writers (172), 3<sup>rd</sup>. By four creators (167), fourth by the triple creator (159), fifth by the twofold creator (157), 6<sup>th</sup> by the single creator (87). An aggregate of 1381 articles contributed by 8599 writers. Topographical insightful appropriation of articles the United States contributed 578 articles, second by England 331 articles, third by Netherland 104 fourth Switzerland 82 Germany in fifth position (70) India contributed 15 articles is in the eleventh position. Creators favored language is English. In the English language, 1311 (94.93%) articles were distributed, the second favored language in Spain all out 16 and the third language is French aggregate of 12 the kinds of articles, Journal articles complete commitment 599, Research Support, Non-U.S. Gov't. Add up to 177, Reviews 143, Case report 119, Research Support, N.I.H., Extramural 85. On breaking down the relative development rate and multiplying time the relative development rate increment the multiplying time diminishes, for example, the pace of development expanded the generation time diminished, It is seen that commitment by Indian creator contrasted and joined countries and joined kingdom is lesser so Indian creator should focus on Research on Prader Willi Syndrome.

**Keywords:** Prader-Willi syndrome, Genetic Disorder, Hunger disease, PWS, Obesity disease

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**INTRODUCTION:** Prader-Willi Syndrome (PWS) is an uncommon hereditary issue.

It causes poor muscle tone, low degrees of sex hormones, and a steady supposition of craving. The bit of the mind that controls notions of culmination or longing doesn't work fittingly in people with PWS. The gorge, provoking obesity. Babies with PWS are ordinarily floppy, with poor muscle tone, and experience trouble sucking. Youngsters may have undescended gonads. A short time later, various signs appear. These include short stature, poor motor capacities, weight increment, under-

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developed sex organs, Mild academic and learning disabilities. There is no solution for PWS. Improvement hormone, exercise, and dietary supervision can help to assemble mass and control weight. Various prescriptions may join sex hormones and direct treatment. A large number of individuals with PWS will require explicit thought and supervision all through their lives. The data is accumulated from the PubMed database using catchphrase search from the year 2009 to 2018 completely for quite a while; the assembled data is organized in surpass desires plan for straight-forward assessment.

**Review of Literature:** There are no scientometric study articles found on Prader Willi syndrome; however the relative reviews are quoted for reference.

Suzanne B Cassidy <sup>1</sup> and Daniel J Driscoll, (2009) reviewed that Prader–Willi syndrome (PWS) is a highly variable genetic disorder affecting multiple body systems. PWS is an example of a genetic condition involving genomic imprinting. It can occur by three main mechanisms, which lead to the absence of expression of paternally inherited genes in the 15q11.2–q13 region: paternal microdeletion, maternal uniparental disomy, and imprinting defect. Inherited genes in the 15q11.2–q13 region: paternal microdeletion, maternal uniparental disomy, and imprinting defect.

Lin Yang and others <sup>4</sup> (2013) investigated Prader Willi disorder by recovering an aggregate of 744 cases from 13 examinations. These incorporate 423 cases with fatherly 15q11-q13 erasure and 318 instances of mUPD. Contrast with the PWS cases with mUPD, PWS patients with the fatherly 15q11-q13 cancellation related with altogether lower full scale IQ (FSIQ) [mean distinction (MD), - 2.69; 95% CI, - 4.86 to - 0.52; p=0.02] and verbal IQ (VIQ) (MD, - 7.5; 95% CI, - 9.75 to - 5.26; p<0.00001) yet higher execution IQ (PIQ) (MD, 4.02; 95% CI, 1.13 to 6.91; p=0.006). Interestingly, PWS patients with mUPD are related with fundamentally higher danger of mental sickness [odds rate (OR), 0.14; 95% CI, 0.08 to 0.23; p<0.00001] and higher danger of bipolar issue (OR, 0.04; 95% CI, 0.01 to 0.23; p=0.0002) at long last reason that mental sickness are related with PWS with various sub-atomic deformities.

These discoveries offer help for proof-based practice to assess and deal with the PWS disorder with various atomic imperfections.

J. Ramakrishnan and K. Thavamani (2015), analyzed the journal “Gastroenterology. They collected the data from the year 2006 – 2010 for authorship patterns in the field of Hepatitis c; they analyzed 137 articles; it had a total of 5132 cited items. Analyzed the authorship patter it reveals the collaborative author contribution to hepatitis C is 93.26% and the degree of collaboration arrived at 0.93 during the study period. The value of the co-authorship index (CAI) for single-author paper shows a declining trend from one block year period to another block. On the other hand, for multi-authored papers, the co-authorship index reveals an increasing trend.

S. Biglu <sup>1</sup> and others (2011) the logical creation of researchers in the field of psychiatry for a time of 10 years, gathered information from the web of science database utilizing catchphrase psychiatry from 2000-2009. The investigation demonstrated that the USA with delivering over 38% of world profiles in the field is the most productive nation pursued by England (10.72%) and Germany (10.67%). English is the overwhelming language of distributions. Most of the productions (68%) are as diary articles. Harvard University with sharing 3.37% of world productions in the field, is the most dynamic college pursued by Columbia University (2.20%) and Yale University (2.07%) individually. In light of the Bradford law, the Journal of Psychiatric Services is the most beneficial one among center Journals in the field.

Janaarathanan PI and Others (2019) examined the osteoporosis in kids from the year 1950-2018, Collected the information from the PubMed database utilizing catchphrase search, and the outcomes were recorded. Osteoporosis happens when bone thickness diminishes. Aggregate of 4837 articles distributed during the examination time frame.

From the initiation example, single writer contributed 866(17.904%), and twofold writer contributed 741 (15.319%), complete 22544 writers contributed 4837 articles Multi-writer contributed 2616 (54.1%) articles, writers favored language is

English 3945 articles, multiplying time diminished step by step from 1.61 to 0.35.

**Observation:**

1. To analyze the authorship pattern.
2. To analyze the ranking of the author.
3. To analyze the type of literature published.
4. To calculate a total number of literature on pws.
5. To find the coefficient of productivity by single and multiauthor.
6. To find the geographical distribution of contribution.
7. To find the language most preferred by the author.
8. To find the maximum number of contributions by author and ranking the author.
9. To find the maximum published articles by a journal.
10. To find the relative growth rate (RGR) and doubling time (dt).

**Data Analysis:**

**TABLE 1: TOTAL NUMBER OF LITERATURES PUBLISHED ON PRADER WILLI SYNDROME FROM THE YEAR 2009 TO 2018**

S. no.	Year	Total number of articles	Percentage
1	2009	107	7.75
2	2010	136	9.85
3	2011	125	9.05
4	2012	125	9.05
5	2013	139	10.07
6	2014	137	9.92
7	2015	154	11.15
8	2016	172	12.45
9	2017	141	10.21
10	2018	145	10.5
	Total	1381	100

A total number of 1381 literature is published for 2009 to 2018; in the year 2016, the highest number of 172 articles are published. In the year 2015, a total of 154 articles published, and in the year 2018 total of 145 articles published. The least number of articles published in the year 2009 a total of 107 only.

From **Table 2**, it reveals the contribution of authors and type of authors.

**TABLE 2: AUTHORSHIP PATTERN**

S. no.	Type of author	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
1	Single	9	6	7	11	13	6	13	10	10	2	87
2	Double	14	16	9	19	18	12	15	24	15	11	153
3	Triple	13	16	17	18	12	15	21	23	13	11	159
4	Four	15	17	19	16	14	18	10	20	14	24	167
5	Five	16	16	9	15	14	19	27	17	19	20	172
6	Six	15	14	8	7	9	19	14	17	17	15	135
7	Seven	3	3	16	13	14	6	15	12	11	7	100
8	Eight	4	11	12	7	10	21	5	7	10	14	101
9	Nine	8	9	7	5	10	2	8	12	9	11	81
10	Ten	4	5	7	5	4	5	5	7	5	10	57
11	Eleven	3	3	2	3	5	2	7	4	2	3	34
12	Twelve	0	4	7	1	4	1	5	2	3	3	30
13	Thirteen	0	3	0	1	2	1	0	2	0	2	11
14	Fourteen	0	3	0	0	0	2	3	0	3	6	17
15	Fifteen	0	0	1	1	2	0	1	3	2	1	11
16	Sixteen	0	2	0	1	3	0	2	2	0	0	10
17	Seventeen	0	0	2	0	0	0	0	1	1	1	5
18	Eighteen	0	2	0	1	1	1	0	2	1	1	9
19	Nineteen	0	0	2	0	0	0	1	0	2	0	5
20	Twenty	0	4	0	0	0	0	0	0	0	0	4
21	Twenty-one	0	0	0	1	2	0	0	1	0	0	4
22	Twenty-two	3	2	0	0	2	7	2	6	4	3	29
	total	107	136	125	125	139	137	154	172	141	145	8599

**Table 2** shows that five authors contributed a total of 172 articles, then by four author 167, third by triple author contributed 159 articles. The single

author contributed 87 articles. 1381 articles contributed by 8599 authors.

**TABLE 3: RANKING THE AUTHORSHIP PATTERN**

S. no.	Type of author	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	Rank
1	Single	9	6	7	11	13	6	13	10	10	2	87	6
2	Double	14	16	9	19	18	12	15	24	15	11	153	5
3	Triple	13	16	17	18	12	15	21	23	13	11	159	4
4	Four	15	17	19	16	14	18	10	20	14	24	167	3
5	Five	16	16	9	15	14	19	27	17	19	20	172	2
6	Multi (six and Above)	40	65	64	46	68	67	68	78	70	77	643	1
	Total	107	136	125	125	139	137	154	172	141	145	1381	

**Table 3** shows Multiauthor contributed 643 articles Rank 1, second by five authors, 3<sup>rd</sup> by four authors, fourth by triple author, fifth by double author, sixth by a single author.

**Degree of Collaboration (DC):** Subramanyam formula has been adopted to find the degree of collaboration in the study.

$$C = Nm / Nm + Ns$$

Where C = Degree of Collaboration in a discipline

Nm = Number of Multiple author papers

Ns = Number of Single author papers

$$C = 663/663+87 = 0.884.$$

**TABLE 4: TOP 20 COUNTRY CONTRIBUTIONS**

S. no.	Country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	Percentage
1	United States	44	56	53	55	64	58	65	74	53	56	578	41.85
2	England	31	39	33	30	35	28	30	38	33	34	331	23.97
3	Netherland	6	6	8	11	8	9	14	18	12	12	104	7.53
4	Switzerland	6	9	5	4	8	11	10	10	10	9	82	5.94
5	Germany	6	5	7	9	7	8	8	9	3	8	70	5.07
6	China	0	4	2	2	1	3	2	2	6	2	24	1.74
7	France	3	2	0	1	1	2	3	2	4	2	20	1.45
8	Japan	1	2	2	1	2	4	3	4	0	1	20	1.45
9	Korea(South)	2	1	2	3	1	2	3	2	0	2	18	1.30
10	Australia	0	4	2	2	4	1	1	1	1	0	16	1.16
11	India	0	1	1	0	2	1	2	5	2	1	15	1.09
12	Spain	2	0	1	1	1	3	1	1	1	3	14	1.01
13	Italy	1	1	1	0	0	0	4	1	4	2	14	1.01
14	Poland	4	3	0	0	1	0	1	1	3	1	14	1.01
15	Scotland	0	1	1	0	3	1	1	0	3	2	12	0.87
16	Ireland	1	1	5	1	0	2	1	0	0	1	12	0.87
17	Denmark	0	0	10	0	0	0	1	1	3	4	10	0.72
18	Israel	0	0	0	1	0	1	2	2	2	2	10	0.72
19	Brazil	0	0	1	2	1	2	0	1	1	2	10	0.72
20	Norway	0	1	0	2	0	1	2	0	0	1	7	0.51

From the **Table 4**, it is revealed that the maximum number of contributions are from United States total of 578(41.85%), Second by England total of 331(23.97%), Third by Netherland total of 104

(7.53%), fourth Switzerland 82(5.94%) Germany in fifth position 70(5.07%) India contributed 15 (1.09%) articles is in 11<sup>th</sup> position.

**TABLE 5: THE AUTHORS FIRST 10 PREFERRED LANGUAGE WISE CONTRIBUTION**

S. no.	Language	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	Percentage	Rank
1	English	98	130	122	117	133	130	146	168	131	136	1311	94.93	1
2	Spain	2		1	1	3	2	1		2	4	16	1.2	2
3	French	2			2	1		2	1	2	2	12	0.9	3
4	China		1	1	1		1	2	1	3	1	11	0.8	4
5	Poland	4	3							1		8	0.58	5
6	Japan	1	1		2		2	1				7	0.51	6
7	Germany				1	1		1	2	1	1	7	0.51	7
8	Porch			1	1						1	3	0.217	8
9	Dutch						1	1		1		3	0.217	9
10	Russian					1	1					2	0.144	10
												100.00		

From **Table 5** it is learned that the author's preferred language is English. In the English language, 1311 (94.93%) articles were published,

the second preferred language is Spain total of 16 and the third language is French total of 12.

**TABLE 6: TYPE OF ARTICLE YEAR WISE CONTRIBUTION**

Type of contributions	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Journal Article	52	60	58	54	59	61	64	66	53	63	591
Research Support, Non-U.S. Govt.	12	18	14	13	19	17	22	24	18	19	177
Review	12	13	13	12	12	13	14	23	17	14	143
Case Reports	6	12	12	10	11	8	12	15	14	19	119
Research Support, N.I.H., Extramural	3	6	9	8	8	9	9	12	12	9	85
Comparative Study	0	5	3	3	4	4	5	4	3	3	34
English Abstract	6	3	0	3	3	3	2	1	0	0	21
Letter	6	3	6	2	2	1	4	5	3	6	38
Systematic Review	0	2	1	0	2	4	2	3	2	1	17
Comment	3	2	0	5	5	1	3	6	3	0	28
Randomized Controlled Trial	2	3	1	3	3	4	4	4	3	1	28
Multicenter Study	2	3	1	1	4	2	2	4	0	1	20
Editorial	1	2	0	3	1	1	3	1	2	0	14
Controlled Clinical Trial	0	2	0	1	0	2	2	0	2	1	10
Practice Guideline	0	1	1	0	0	0	0	0	0	1	3
Evaluation Studies	0	1	0	2	0	2	1	1	2	1	10
Research Support, U.S. Gov't, P.H.S.	2	0	0	3	0	0	1	0	0	0	6
Meta-Analysis	0	0	1	1	1	2	1	0	1	1	8
Historical Article	0	0	1	0	0	1	1	0	2	1	6
Congress	0	0	1	0	0	1	0	0	1	1	4
Clinical Trial Protocol	0	0	1	0	4	1	0	2	2	1	11
Clinical Conference	0	0	1	0	0	0	0	0	0	1	2
Book	0	0	1	0	0	0	2	1	1	1	6
News	0	0	0	1	1	0	0	0	0	0	2
	107	136	125	125	139	137	154	172	141	145	1381

**Table 6** shows the types of articles, Journal articles total contribution 599, Research Support, Non-U.S. Govt. total 177, Reviews 143, Case report 119, Research Support, N.I.H., Extramural 85.

Govt. total 177, Reviews 143, Case report 119, Research Support, N.I.H., Extramural 85.

**TABLE 7: RELATIVE GROWTH RATE (RGR) AND DOUBLING TIME (DT)**

S. no.	Year	Total number of articles	Cumulative	W1	W2	RGR	DT
1	2009	107	107		4.673	1.54	0.625
2	2010	136	243	5.493	10.166	2.32	0.415
3	2011	125	368	5.908	16.074	2.77	0.348
4	2012	125	493	6.2	22.274	3.1	0.311
5	2013	139	632	6.448	28.722	3.358	0.287
6	2014	137	769	6.645	35.367	3.566	0.27
7	2015	154	923	6.827	42.194	3.742	0.257
8	2016	172	1095	6.998	49.192	3.896	0.247
9	2017	141	1236	7.12	56.312	4.03	0.239
10	2018	145	1381	7.23	63.542	4.152	0.231
	Total	1381					

**Table 7** indicates that the relative growth rate increases and the doubling time decrease.

excel format for easy analysis. A total of 1381 literature is published from the year 2009 to 2018; in the year 2016, the highest number of 172 articles are published.

**CONCLUSION:** The People with PWS need specialized care and supervision throughout their lives, the data is collected from PubMed database using keyword search from the year 2009 to 2018 totally for 10 years, the collected data is arranged in

In the year 2015, a total of 154 articles published, and in the year 2018 total of 145 articles published. The least number of articles published in the year



2009 a total of 107. Authorship pattern reveals that five authors contributed a total of 172 articles, then by four authors 167, third by triple author contributed 159 articles. The single author contributed 87 articles. Ranking of author according to authorship pattern Multiauthor contributed 643 articles Rank 1, second by five authors (172), 3<sup>rd</sup> by four authors (167), fourth by the triple author (159), fifth by the double author (157), sixth by a single author (87). A total of 1381 articles contributed by 8599 authors.

Geographical wise distribution of articles the United States contributed 578 articles, second by England 331 articles, third by Netherland 104 fourth Switzerland 82 Germany in fifth position (70) India contributed 15 articles is in 11<sup>th</sup> position. The author's preferred language is English. In English language 1311 (94.93%) articles were published, second preferred language is Spain total 16 and the third language is French total of 12 the types of articles, Journal articles total contribution 599, Research Support, Non-U.S. Govt. total 177, Reviews 143, Case report 119, Research Support, N.I.H., Extramural 85.

On analyzing the relative growth rate and doubling time the relative growth rate increases the doubling time decreases *i.e.* the rate of growth increased the production time decreased, it is observed that

contribution by Indian author compared with United Nations and the United Kingdom is lesser so Indian author should concentrate on Research on Prader Willi Syndrome.

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