

Informetrics on accidents and trauma

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Abstract

MEDLINE database has been analysed for 1995-97 on index Accidents and Trauma. Publications output has been classified yearwise, countrywise, journalwise and other fine structure characteristics have been found. High frequency keywords have been identified. Other valuable data have been compiled. The value of informater for decision making is brought out by this study and the comprehensive data compilation by MEDLINE is established.

Introduction

Quantitative analyses of information generation, its transfer, and use is called informatrics. Present paper deals with information generation and its characterisations at global level in the domain 'Accidents and Trauma' during 1995-1997. Accident is an unintentional and harmful event. Emergency is the sudden state of danger, crisis, urgent happening, or need, etc. requiring immediate action. Trauma is an injury caused by a mechanical, physical, or psychic agents.

Objectives of the study on 'Accidents and Trauma' are:

to know yearwise output of publications.

to know countrywise origin of publications.

to reveal authorship pattern,

to identify countries publishing the source journals.

to find out the languagewise output of publications,

to know journalwise scattering of publications,

to apply Bradford's law of scatter,

to know average Bradford multiplier,

to find number of pagewise frequency of publications,

to identify high frequency keywords in titles of the publications,

to know names of the experts,

to record the research locations of work conducted by the prolific authors.

to document the names of substances,

to find checktag scores

to note subsets documented, and

to record high frequency Medical Subject Headings.

Methodology

MEDLINE database on CD-ROM was downloaded and used for present study. Normal count procedure (Pravdic and Oluic-Vukovic, 1986) was followed by giving one score for every occurence of the subject under consideration. The collaboration Coefficient (Subramanyam, 1983) was calculated as the ratio of the number of collaborative research papers to the total number of research papers published during the period.

Publication Density is defined as the ratio of the total number of research papers published to the total number of journals in which the papers were published, and Publication Concentration is defined as the ratio in percentage of the journals containing half of the papers published to the total number of journals in which those papers were published during the period under study (Vinkler, 1990).

Results and discussion

Out of 370 papers published during 1995-1997, on 'Accidents and Trauma' considered for present study, countrywise origin of research papers (Table 1) revealed that 67 papers were communicated from USA, 50 papers from UK, 38 papers from Japan, and 36 papers from Germany. The 191 (51.6%) papers belonged to these four countries. Remaining 179 papers originated from 54 other countries where 15 papers were from Canada, 13 papers each were from Australia, England, and Finland, France and Italy published 12 papers each.

Authorship pattern in 'Accidents and Trauma' (Table 2) show papers three-authored papers were maximum (20.8%) followed by two-authored (18.1%)and fourauthored (15.68%). Collaboration Coefficient was 0.88 during 1995-97. About 80 percent of the papers had one to five authors. Maximum authors were eleven in three papers. A research contribution by 10 or more authors has been termed as the work of mega-authorship (Sen, 1997). Mega-authorship is emerging 'Accidents and Trauma' research also the causes may be i) Multidisciplinary research activity, ii) application Multidisciplinary of results, iii) Resource sharing, and iv) Advanced technology.

Counters publishing the source journals having research papers on 'Accidents and Trauma' (Table 3) indicated that maximum (105) papers were in journals published from USA followed by 92 papers from England, 50 from Germany and 35 from Japan journals from France have published 11 papers and Italy 10 papers. About 80 percent papers were published in journals originating from five countries (20 percent) out of total 29 countries, and 20 percent papers originated from 24 countries (about 80 percent). Thus, the results follow 80/20 rule (Egghe, 1987).

Publication types included all journal articles. However, following classified types were: review-tutorial (20), review of reported cases (14), clinical trial (9), randomized controlled trial (6), review of literature (4), multicentre study (4), controlled clinical trial (3), letter (2), and historical article (1).

Languagewise distribution of research papers on 'Accidents and Trauma' (Table 4) clearly documents that English is the universal language with maximum 266 papers, followed by 41 papers in German, 31 papers in Japanese, and 10 papers in French.

Journalwise scattering of research papers in 'Accidents and Trauma' (Table 5) furnishes following data: 22 papers in J. Accident Emergency Med., 20 papers in Injury, 19 papers in Unfallchirurg, and 18 papers in J. Trauma. The 50 percent of the articles are published in 28 journals constituting 15 percent of the total journals (185). If we consider 60 percent of the total articles which are published in 48 journals those form 26 percent of the total journals. First 35 percent of the articles were concentrated in top ranking 10 journals. Last 35 percent of the articles were scattered having one article each in 130 journals. Remaining 30 percent of the articles were distributed in journals ranking from 11 to 55 i.e. 45 journals. The publication density was 2 and publication concentration was 15 percent (Table 6) also includes the Impact Factor and Immediacy Index for all journals as per SCI JCR 1995. Figure 1 portrays the Bradford-Zipf bibliograph and inset reveals cumulative publications in core journals.

Expertise available in the domain 'Accidents and Trauma' as a measure of member of authorships to the credit of authors during 1995-1997 was compiled (Table 10). There are total 1267 authors: Kannus P., Parkkari J., and Vuori I, are top ranking. Seven authors have four

authorships each and twelve authors have three authorships each.

Locations where maximum work in the field of 'Accidents and Trauma' is being conducted can be found out by the addresses of the experts (included in the Table 10) are as follows:

Kannus P, Parkkari J., Vuori I., Sievanen H., and Niemi S., belong to the Accidents and Trauma Research Centre, UKK Institute for Health Promotion Research PIN-33500 Tampere, Finland.

Blanchard E.B. and Taylor A.E. belong to the Centre for Stress and Anxiety Disorders, University of Albany-SUNY 12222, USA.

Bryant R.A. and Harvey A.G. belong to the School of Psychology, University of New South Wales, Kensington, Australia.

Schweiberer L is from the Chirurgische Klinik und Poliklinik, Ludwig - Maximilians - Universitat Munchen - Germany.

Teanby D.N. is from the Department of Orthopaedic Surgery, Withington Hospital, Manchester, U.K.

Boot D.A. and Gorman D.F. are from the Accidents and Emergency Department, Warrington District General Hospital, U.K.

Tschenc H, is from the Orthopadische Abteilung im Rehabilitations Krankenhaus, Orthopadische Klinik der Universitat, Ulm.

Guli S.H. and Low B.Y. belong to the Accident and Emergency Department, Toa Payoh Hospital, Singapore.

Nast Kolbe D. and Ruchholtz S. belong to the Department of Surgery, Ludwig Maximilians University, Munich, Germany.

Randanov B.P. and Sturzenegger M. belong to the Department of Psychiatry/Department of Neurology, University of Berne, Insclspital, Switzerland. Robertson C.R. is from the Accident and Emergency Department, Glassgow Royal Infirmary, U.K./Royal Infirmary of Edinburgh, Scotland, U.K.

Watanabe K. belongs to the Department of Thoracic and Cardiovascular Surgery, Kyourin University, School of Medicine, Mitaka, Japan.

Authors (71) having two authorships each were: Beard D., Bradley S., Buckley T.C., Burgoss A.R., Busutitil A., Cobby M., Cornu E., Crowford R., DiStefamo G., Evans P.A., Fischer M., Gansslen A., Goodacre S.W., Grahm C.A., Gray A, Gueret P., Hansis M., Hattori Y., Heikkila J., Heinonen A., Hickling E.J., Hilton M., Holubowyez O.T., Hurme T., Hyland McCuire P., Imaizumi H., Kato S., Komatsu H., Kvist M., Lagrange P., Lee J., Loss W.R., Lumpkin J., Martin V., Matsumoto S., Matsuyama T., Maunu V.M., Mclauchlan C.A., Nagasaki G., Nagata Y., Natri A., Negi K., Oakland C.D., Ohiorenoya D., Ozawa K., Parker R.S., Pasanen M., Pohlemann T., Poutala J., Puschel K., Rainer T.H., Regel G., Sato M., Schultz J.H., Senga M.J., Sinha M.P., Stocker R., Sturmer K.M., Sugimura S., Tropet Y., Trupka A, Vedrinne J.M., Vignon P., Wentzensen A., Williams M.J., Winje D., Winkler H., Wotherspoon J., Yamada M., Yamada T., and Young J.G.

There are 1173 authors who have authorship in only one paper each one on the 'Accidents and Trauma' (1995-97)

Names of the substances associated with the 'Accidents and Trauma' (if frequency is more than one it is noted in parenthesis) given in alphabetical order are: Alchohol, - Ethyl (4); Americium: Amyloid-Protein-AA; Amyloid-protein - AA - precursor; Antibiotics; Antibiotics, - Combined; Anticoagulants (3); Anti-Inflammatory-Agents, - Non-Steroidal; Antirhcumatic Agents; Antithrombins; Antithrombin-III. Apolipoproteins: Azathioprine; Beta-Endorphin; Calcium;

Chemokines; Gisapride; Carbon-Dioxide: Corticotropin; Cyclosporine, Deoxyglucose; Desmopressin; ENA-78: Seletin: E Fibrinolytic - Agents; Fludcoxyglucose - F-18; Fluorine - Radioisotopes; FSH; Glucose; HLA-DR-Antigens; Heparin; Gonadorelin: Hydrocartisone (2); Immunosuppressive Agents; Insulin; Interleukin-6; Interleukin-8(2), Lactates: Isotonic Solutions: Opthalmic LH: Leukocyte-Elastage; Osteocalcin; Oxygen; Solutions: Parasympathomimetics; Plasma - Substitutes (2); Piperidines; Platelet - Glycoprotein - GP II b - III a - Complex; Polygeline (2); Polytetrasluoroethylene; Pottasium; Prolactin (2); Protirelin; P- Sectin; Pulmonary Surfactants: Radiopharmaceuticals; Rifampin; Ringer's - Lactate; Selectins; Somatropin; Stainless-Steel; Streptokinase; Sulfasalazinc; Sympathofmimetics; Tcchnetium - Tc - 99m -PYrophosphate; Thyrotropin; Titanium (3); Triamcinolone: and Vancomycin.

Checktages scores were: Animal(7); Casc Report (138); Comparative Study (22); Female (197); Human (223); Male (248); Support, Non-US Government (49); and Support, US Government PHS (4).

Subsets documented were: AIM (46), Nursing (11), and Dental (8).

High frequency Medical Subject Headings (MeSH), (Humphrey, 1984), were: Adult (149); Adolescence (102); Middle-Age (99); Aged (66); Child (62); Accidents, - Traffic (54); Child,-Preschool (40); etc. (Table 11).

Conclusion

This study demonstrates that by using MEDLINE database it is possible to draw various data and informations to project the characteristics and trends of information genration in a particular domain. Informatics has its utility in the decision making process. It can

identify strengths and weakness in a research domain. Information technology is destroying the barriers of distance by shrinking the globe into a globule. Trespassing all of the unnatural barriers made by human beings due to language, religion, national, regional, political, knowledge, etc. is the highest achievement of human beings of the 20th century.

References:

Egghe L. (1987) Pratt's measure for some bibliometric distributions and its relation with 80/20 rule. Journal of the American Society for Information Science, 38(4),288-297

Humphrey S.M. (1984) File maintenance of MeSH headings in MEDLINE. Journal of the American Society for Information Science, 35(1), 34-44.

Pravdic N and Oluic-Vukovic C. (1986) Dual approach to multiple authorship in the study of collaboration/scientific output relationship. Scientometrics, 10(5-6), 259-280

Sen B.K. (1997) Mega-authorship from a bibliometric point of view. Malaysian Journal of Library & Information Science, 2(2), 9-18.

Subramanyam K. (1983) Bibliometric studies of research collaboration: A review J. Inf. Sci., 6(1), 33-38

Vinkler P. (1990) Bibliometric analysis of publication activity of a scientific reserch institute Informatics, 89/90 Edited by Egghe L. and Rousseau R., Elsevier Science Publishers: B.V., 390-334.

Address: Turning Point Centre, 2:2, C5-29, Sector-5, Konkan Bhayan, Navi, Mumbai-400 614, India.

TABLE

Countrywise origin of research papers on 'Accidents and Trauma'
retrieved from MEDLINE detabase on CD-ROM (1995-97)

| | | • | • |
|-------------------------------|--|--|---------------|
| COUNTRY OF RESEARCH INSTITUTE | 10.010 | NO. OF PAPERS PUBLISHED | Lotin!! |
| U.S.A. | | 67 | beslesii |
| U.K. | A Comment | 50 | numma) |
| Japan 26 | () | 38 | nama ni |
| Germany | 0 | 36 | 10 Ha FT |
| Canada | | 15 | |
| g = | | 13 | |
| | _ | 12 | |
| Italy | | The same of the sa | |
| Switzerland | | | |
| Spain | | 08 | |
| China | | 05 | |
| | | 05 | |
| Ireland | to the second se | 05 | n kostos A |
| Singapore | Salarian de la compania del compania del compania de la compania del compania de la compania de la compania del compania de la compania de la compania de la compania de la compania del co | 05 | Serveries (|
| Belgium | 0.0 | 04 | tay 3 |
| Norway | GA. | 04 | 0.0071() |
| Africa | 30 | 03 | sibul |
| Chile | 7 1 | 03 | Romania |
| larael | (30) | 03 | The Neth |
| Kingdom of Saudi Arabia | ((0) | 03 | antenA |
| The Netherlands | DA) | 02 | pasonD |
| | 00 | 02 | Demini I |
| | 00 | 02 | foretal |
| Scotland | 00 | 02 | Result |
| Sweden | 00 | 02 | 21 K115 T-176 |
| Turkey | 378 | 02 | 15/12/1 |
| Others (with only one pape | er ench) | 29 | |
| Total | | 370 | |

TABLE 2

Authorship pattern in 'Accidents and Trauma' research papers retrieved from NEDLINE database on CD-ROM (1995-97)

| A | Р | % P | ≥ % P | A.P |
|--------|-----|--------|--------|------|
| ONE | 45 | 12.16 | 12.16 | 045 |
| TWO | 67 | 18.11 | 30.27 | 134 |
| THREE | 77 | 20.81 | 51.08 | 231 |
| FOUR | 58 | 15.68 | 66.76 | 232 |
| FIVE | 48 | 12.97 | 79.73 | 240 |
| SIX | 42 | 11.35 | 91.08 | 252 |
| SEVEN | 17 | 04.60 | 95.68 | 119 |
| EIGHT | 04 | 01.08 | 96.76 | 032 |
| NINE | 05 | 01.35 | 98.11 | 045 |
| TEN | 04 | 01.08 | 99.19 | 040 |
| ELEVEN | 03 | 00.81 | 100.00 | 033 |
| Total | 370 | 100.00 | | 1403 |

A=No. of authors P = No. of papers , and \sum % P = Cumulative percentage

TABLE 3

Countries publishing the source journals having research papers on 'Accidents and Trauma' retrieved from MEDLINE database on CD-ROM (1995-97)

| TRY OF JOURNAL | NO. OF PAPERS PUBLISHED |
|------------------|-------------------------|
| United States | 105 |
| England | |
| Germany | 050 |
| Japan | 035 |
| France | 011 |
| Italy | 010 |
| Scotland | 009 |
| Canada | 007 |
| Denmark | 005 |
| Ireland | 005 |
| Spain | 005 |
| Taiwan | 004 |
| Belgium | 003 |
| Norway | . 003 |
| Singapore | 003 |
| Switzerland | 003 |
| Australia | 002 |
| Dulgaria | 002 |
| Czech - Republic | 002 |
| Greece | 002 |
| India | 002 |
| Romania | 002 |
| The Netherlands | 002 |
| Austria | 001 |
| Croatia | 001 |
| Finland | 001 |
| lsracl | 001 |

TABLE 4

Languages of research paper in 'Accidents and Trauma' (1995-97)
retrieved from MEDLINE database on CD-ROM

| English | 4 | 1.32.2.1 | 9.87 | 266 | A |
|-----------|-----|----------|----------|-----|--|
| German | | 1000000 | | 041 | ergen eigen auf generale der der eine eine eine eine eine eine eine ei |
| Japanese | 640 | 01.51 | 01.31 | 031 | OWT |
| French | | 20.05 | 20.81 | 010 | THEFF |
| Italian | 232 | 66.76 | 15.68 | 005 | POUR |
| Spanish | 240 | 179.73 | 12.97 | 004 | Vip |
| Danish | 207 | 80.19 | 00.00 | 003 | SEVEN |
| Bulgarian | 032 | 96.76 | 80.10 | 002 | THEFT |
| Chinese | | | | 002 | |
| Czech | | 102 | 11.30 | 002 | 1 FREY GARA |
| Russian | | | I VYANKA | | 1 |
| Norwegian | | | | | |

Journalwise scattering of research publications in 'Accidents and Trauma' retrieved from MEDLINE database on CD-ROM (1995-97)

| SR. NO. | | O. OF OPERS | COUNTRY | IMPACT FACTOR | IMMEDIACY INDEX |
|------------|-----------------------------|----------------|-----------|------------------|--------------------|
| 1 | J.Accid. Emerg. Med. | 22 | England | | (1 0 - |
| 2 | Injury | 20 | England | 0.146 | 0.023 |
| 3 | Unfallchirurg | 19 | Germany | 0.169 | 0.009 |
| 4 | J.Trauma | 18 | USA | 1.326 | 0.115 |
| 5 | Nippon -Kvohu-Geka. | | alt vill | AND NOT ROBBY | -14. |
| | Gukkui-Zasshi | 14 | Japan | 3 - 1- | |
| 6 | Kyobu Geka | 11 | Japan | - | |
| 7 | Accid. Anal. Prev. | 08 | England | | A W. |
| 8 | Accid. Emerg.Nurs. | 07 | Scotland | - 1-65 | m3_19 - |
| 9 | Eur. J.Emerg. Med. | 06 | England | 100000 | |
| 10 | Brit. Med. J. | 05 | England | 4.549 | 2.665 |
| 11 | Brain Injury | 04 | England | 0.880 | 0.125 |
| 12 | Intensive Care Med. | 04 | USA | 1.822 | 0.190 |
| 13 | J.Manipulative Physiol. The | er. 04 | USA | 0.125 | 0.000 |
| 14 | Acta Chir. Belg. | 03 | Belgium | 0.088 | 0.000 |
| 15 | Anaesthesist | 03 | Germany | 0.594 | 0.070 |
| 16 | Ann.Roy. Coll Surg | 03 | England | 0.735 | 0.327 |
| 17 | Arch.Orthop.Trauma Surg. | 0.3 | Germany | 1# | - |
| 18 | Behav.Res.Ther. | 03 | England | - | - |
| 19 | Can.J.Surg. | 03 | Canada | 0.476 | 0.116 |
| 20 | J.Bone Miner Res. | 03 | USA | 5.950 | 0.583 |
| 21 | J.Orthop .Trauma | 03 | USA | - | - 1 |
| 22 | J.Trauma Stress | 03 | USA | - | (9) |
| 23 | J. Vasc. Surg. | 03 | USA | 2.348 | 0.294 |
| 24 | Neurol, Med.Chir , Tokyo | 03 | Japan | - | 00 _000 |
| 25 | Sping | 03 | USA | 0.588 | 0.154 |
| 26 | Uzeskar Laeger | 03 | Denmark | - | -100 |
| 27 | Zentrabl Chir | 03 | Germany | - | - 100 |
| 28 | Am. J. Forensic Med. Patho | 1. 02 | USA | 0.315 | 0.000 |
| 29 | Ann. Acad Med. Singapore | 02 | Singapore | | 200 _ 100 |
| 30 | Ann. Chir. Main Memb. Sup | er. 02 | France | _ | ************ |
| 31 | Ann. Emerg. Med. | 02 | USA | 0.746 | 0.126 |
| 32 | Ann. Plast. Surg. | 02 | USA | 0.520 | 0.079 |
| 33 | Arch, Phys. Med. Rehabil. | 02 | USA | 1.084 | 0.161 |
| 3/1 | Brit.J.Psychiatry | 02 | England | 2.951 | 0.578 |
| 35 | Calcified Tissue Int. | 02 | USA | 2.763 | 0.134 |

| SR. NO. | JOURNAL | NO. OF PAPERS | | IMPACT FACTOR | IMMEDIACY INDEX |
|------------|------------------------|------------------|----------|------------------|--------------------|
| 36 | Can. Assoc. Radiol. J. | 62 | Canada | 0.287 | 0.061 |
| 37 | Childs Nerv. Syst. | 02 | Germany | 0.573 | 0.109 |
| 38 | Chirarg | 02 | Germany | 0.505 | 0.100 |
| 39 | Cortex | 02 | Italy | 1.569 | 0.119 |
| 40 | Eur. J. Surg. | 02 | Norway | 0.440 | 0.081 |
| 11 | Hepatogastroenterology | 02 | Greece | 0.713 | 0.016 |
| 12 | J. Pediatr. Orthop. | 02 | USA | 0.473 | 0.051 |
| 43 | J. Pediatr. Surg. | 02 | USA | 0.911 | 0.064 |
| 44 | J.R. Col. Surg. Edinb. | 02 | England | - | - |
| 45 | J. Stud. Alcohol | 02 | USA | 1.538 | 0.159 |
| 46 | Kan-Hstung-1-Hsueh- | | | | |
| | Ko-Hsusch-Tsa-Chih. | 02 | Taiwan | | - |
| 47 | Khirurgua - Sofia | 02 | Bulgaria | | - |
| 48 | Lancet | 02 | England | 17.490 | 3.929 |
| | Masui | | | | |
| | | | | 0.217 | 0.010 |
| | | 02 | France | 0.542 | 0.080 |
| | | | | 0.883 | |
| | · | | France | 0.088 | 0.013 |
| 54 | Rev Esp Cardtol. | 02 | Spain | | |
| 55 | Z. Kardiol. | 02 | Germany | 0.499 | 0.169 |
| 56 -1 | 85 Journals with | A 7 | 31 I.A | del Then | pulative Phys |
| .0 | only one article each | 130 | | 31071, 37101. | SEAT E. STELLER |
| | Total | 370 | | | |

impact Factor & Immediacy Index as per the SCI Journal Citation Reports , 1995

TABLE 6

Distribution of 'Accidents and Trauma' research papers retrieved from MEDLINE database on CD-ROM (1995-97) as per Bradford's Law of Scatter

| j | 7,3€ | | P | J. P | ¥ J.P | Admin Processor |
|---------|------|---|--------|--------------|--|--|
| 001 | 001 | | 22 | 022 | 022 | |
| 001 | 002 | | 20 | 020 | 042 | |
| 001 | 003 | | 19 | maga 019 & 0 | 061 | All Control Garage |
| 001 | 004 | 292 (| 18 | A2(018 E0 | 079 | 31111 |
| 100 | 005 | electric confidential of the control | 14 | 014 | 093 | sastany anyead |
| 001 | 006 | AND THE RESIDENCE OF | -11-21 | 011 | 104 | entrald Clair |
| 001 - | 007 | All the Second Control of the Second | 08 | 008 | 112 | 18 1 Element 1 1 |
| 0.0(100 | 008 | 315 | 07 | 007 | 119 | |
| 001 | 009 | . 10 | 065100 | 108 006 | 125 | E. CHARLENGE W |
| 001 | 010 | Control College (In.) Sec. (1) W. S. (1) | 05 | 005 | OEl Super | Manna and a |
| 003 | 013 | 246 | 04 | A > 012 | 142 | m. Emerge Med. |
| 11177 | 027 | | 03 | 042 | 184 | |
| 028 | 055 | | 02 | 056 | 240 | |
| 130 | | | 01 | 130 | 370 | CONTRACTOR OF THE PROPERTY AND |
| | | | | | Colored Colore | |

TABLE

Bradford zones of distribution of 'Accidents and Trauma 'research papers retrieved from MEDLINE database on CD-ROM (1995-97)

| - Z | Λ | Las Journals | BM | eady late |
|-----|-----|--------------|-------|--|
| 1 | 125 | 009 | Kreny | umarea. |
| II | 115 | 046 | 5,1 | AMULTINE TO |
| III | 130 | 130 | 2.8 | 200 M 10 10 10 10 10 10 10 10 10 10 10 10 10 |

Z = Zone A = Articles J = Journals, BM = Bradford Multiplier, and

Average Bradford Multiplier = 3.95

TABLE 8

Number of pages of research papers on 'Accidents and Trauma' retrieved from MEDLINE database on CD-ROM (1995-97)

| NO. OF PAGES | FREQUENCY | TOTAL |
|--------------|-----------|-----------------|
| Ī | 04 | 004 |
| 2 | 34 | 068 |
| 3 | 56 | 168 MASH OF THE |
| 4 | . 76 | 304 |
| 5 | 53 | 265 |
| 6 | 51 | 306 |
| 7 | 26 | 182 |
| 8 | 26 | 208 |
| 9 | 13 | 117 |
| 10 | 10 | 100 |
| 11 | 05 | 055 |
| 12 | 04 | 048 |
| 13 | 02 | 026 |
| 14 6 | 03 1011 | 042 |
| 15 | 01 | 015 |
| 16 | 02 11 19 | 032 |
| 17 | 01 | 017 |
| 20 | 01 | 020 |
| 23 | 01 | 023 |
| 25 | O1 PMT 5 | 025 |
| Total | 370 | 2025 |

TABLE 9

High frequency keywords in the littles of the

publications on 'Accidents and Trauma'
refrieved from MEDLINE database on CD-ROM (1995-97)

| TRAUMA 157 1 | | 1 |
|--|--|--|
| TRAUMA 157 INJURY 93 ACCIDENT 07 CASE 60 PATIENT 48 EMERCENCY 36 REPORT 35 REPORT 35 REPORT 32 FRACTURE 31 RUPTURE 29 CHILD 21 POST TRAUMATIC 20 IMANAGEMENT ARTERY 18 FOLLOWING 18 ITEAD 16 MOTOR VEHICLE 16 ITEAD 16 MOTOR VEHICLE 16 ITEAD 15 ITEAD 16 MOTOR VEHICLE 16 ITEAD 17 ITEAD 17 ITEAD 17 ITEAD 17 ITEAD 10 ITEAD | KEYWURU | FREQUENCY |
| INJURY | TEALMA | 157 |
| ACCIDENT CASE PATIENT EMERGENCY 36 REPORT BLUNT 37 FRACTURE CHILD CHILD CHILD CHILD ARTERY ARTERY ARTERY ARTERY ARTERY IBANAGEMENT IBAN | | |
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| CASE PATIENT 48 EMERGENCY 36 REPORT 35 BLUNT 32 FRACTURE 31 RUPTURE 29 CHILD 21 POST TRAUMATIC 20 MAHAGEMENT 48 FOLLOWING 18 HEAD 16 MOTOR VEHICLE 16 MOTOR VEHICLE 16 AFTER 13 SEVERE 13 THORACIC 13 SURGICAL 12 ARDOMINAL 11 AGRIC 11 CHEST 11 EPIDEMIOLOGY 11 CARDIAC 10 COMPARISON 10 REVIEW 10 STRESS 10 VICTIMS WHIPI ASH CAUSE 9 PREHOSPITAL 9 ANALYSIS 8 ELDERLY 8 FATAI 8 INCIDENCE 3 MINOR 8 | | |
| PATIENT | ACCIDENT | |
| PATIENT | ICASE | 1 60 |
| CMCRGCNCY 36 REPORT 35 61 UNT 32 FRACTURE 31 RUPTURE 29 CHILD 20 MANAGEMENT 18 FOLLOWING 18 HEAD 16 MOTOR VEHICLE 16 16 15 15 15 15 15 15 | DATIENT DOB : 15mg | |
| CMCRGCNCY 36 REPORT 35 61 UNT 32 FRACTURE 31 RUPTURE 29 CHILD 20 MANAGEMENT 18 FOLLOWING 18 HEAD 16 MOTOR VEHICLE 16 16 15 15 15 15 15 15 | PATII-NI | 40 |
| REPORT 35 RI UNT 32 FRACTURE 31 RUPTURE 29 CHILD 21 POST TRAUMATIC 20 IMANAGEMENT ARTERY 18 FOLLOWING 16 INCAD | EMERGENCY | 36 |
| FRACTURE 31 RUPTURE 29 CHILD 21 POST TRAUMATIC 20 MANAGEMENT 18 FOILOWING 16 IEAD IEAD 16 IEAD I | | |
| FRACTURE 31 RUPTURE 29 CHILD 21 POST TRAUMATIC 20 MANAGEMENT 18 FOLIOWING 18 ITEAD 16 16 16 16 16 16 16 1 | IKEPORT | 35 |
| FRACTURE 31 RUPTURE 29 CHILD 21 POST TRAUMATIC 20 MANAGEMENT 18 FOLIOWING 18 ITEAD 16 16 16 16 16 16 16 1 | BLUNT | 32 |
| RUPTURE 29 CHILD 21 POST TRAUMATIC 20 MANAGEMENT 18 FOLIOWING 18 ITEAD 16 16 16 16 16 16 16 1 | | |
| CHILD 21 POST TRAUMATIC 20 MANAGEMENT 18 FOLLOWING 18 HEAD 16 MOTOR VEHICLE 10 15 15 15 15 15 15 15 | FRACTURE | |
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| POST TRAUMATIC 20 MANAGEMENT 18 FOLLOWING 18 ITEAD 16 MOTOR VEHICLE 16 16 15 15 15 15 15 15 | And the same of th | |
| MANAGEMENT 18 FOLI OWING 18 18 18 18 19 10 16 16 16 16 16 16 16 | | |
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| KEYWORD | FREQUENCY |
| DISLOCATION | 7 |
| EARLY OF | 7 |
| EFFECT | 7 |
| EVALUATION | 7. |
| FACTORS | 7 |
| HOSPITAL . | 7 |
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| ASPECT | 5 |
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| DELAY | 5 |
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| INDICATION | 5 |
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| LITERATURE | 5 |
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| PRACTICE | 5 |
| PREDICTION | 5 |
| REDUCE | 5 |
| RISK | 5 |
| SERVICE | 5 |
| SPINE | 5 |
| SUPPORT | 5 |
| THERAPY | 5 5 |
| TIME | 5 |
| ADMISSION | 4 |
| AIRBAG | 4 |
| ANTERIOR | 4 |
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| PRIMARY | 1 |
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TABLE 10

Expertise in 'Accidents and Trauma'as per number of authorships during 1995-97 retrieved from MEDLINE database on CD-ROM (1995-97)

| SR. NO. | AUTHOR | NUMBER OF AUTHORSHIPS |
|------------|-------------------|---------------------------------------|
| | KANNUS P. | 10 10 |
| 2 | PARKKARI J. | 6 103 |
| 3 | VUORI I , LOU | 6 |
| 4 | BLANCHARD E.B. | 41811111 |
| 5 | BRYANT R. A. | 4 |
| 6 ° | HARVEY A. G. | 4 14.1 |
| 7 | SCHWEIBERER L. | 4 |
| 8 | SIEVANEN H. | MEU VARM |
| 9 | TEANBY D. N. | 4 01014 |
| 10 | TSCHERNE H. | 4 7097 |
| 11 | BOOT D. A. | 3 4 4 100 |
| 12 | GOH S. H. | 3 |
| 13 | GORMAN D. F. | 3-2-19 |
| 14 | LOW B. Y. | 3 |
| 15 | NAST KOLBE D. | 3 3 4 5 7 |
| 16 | NIEMI S. | 3,74,53 |
| 17 | RADANOV B. P. | 3 AND |
| 18 | ROBERTSON C . E. | 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 |
| 19 | RUCHHOLTZ S. | 3 0000 |
| 20 | SATURZENEGGER M. | 3 Mayas |
| 21 | TAYLOR A. E. | |
| 22 | WATANABE K. | . 3 SABY |
| 23 - 94 | AUTHORS WITH | 144 |
| | TWO PAPERS EACH | ADOLESCE |
| | (2×72) | ACE |
| | AUTHORS WITH | 1173 |
| | ONE PAPER EACH | 631M0020A |
| 1 - 1267. | TOTAL AUTHORSHIPS | 1403 |

TABLE 11

High frequency Medical Subject Headings (MeSH) for research papers published on 'Accidents and Trauma' retrieved from MEDLINE data base on CD - ROM (1995 -97)

| MeSH | Frequency |
|--|-----------|
| Adult | 149 |
| Adolescence | 102 |
| Middle-Age | 102 |
| Aged | - |
| Child | - |
| Accidents-Traffic | |
| Child,-Preschool | |
| Retrospective-Studies | - |
| Aged, -80-and-over | - |
| Infant | |
| Wounds,-Nonpenetrating-complications | - |
| Prospective-Studies | |
| Follow - up - Studies | 72 |
| Incidence | 23 |
| | 23 |
| Tomography,- X-Ray-Computed | 22 |
| Time-Factors | 18 |
| | _ |
| Treatment - outcome | - |
| Injury- Severity - Score | |
| Wounds,-Nonpenetrating-surgery | _ |
| Age-Distribution | _ |
| Emergencies | |
| Accidents,-Traffic-statistics-and-numerical-data | |
| Multiple - Trauma-mortality | |
| Multiple-Trauma-surgery | _ |
| Thoracic-Injuries-complications | |
| Trauma-Severity-Indices | 11 |
| Wounds-and-Injuries-epidemiology | 11 |
| Emergency-Service,-Hopsital | 10 |
| Multiple-Trauma - diagnosis | 10 |
| Survival-Rate | 10 |
| Diagnosis,-Differential | |
| Glasgow-Coma-Scale | |
| Multiple-Trauma-epidemiology | 9 |
| Multiple-Trauma-radiography | 9 |
| Stress-Diaorders,-Post-Traumatic-psychology | 9 |
| Wounds, Non-penetrating - diagnosis | |

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| Accidental - falls | High | 8 |
|--|------------------------------|---|
| Accidents,-Traffic-psychology | research p | 8 |
| Cause-of-Death | (1995-97 | 8 |
| England-epidemiology | | 8 |
| Fatal-Outcome | TI C SIVI | 8 |
| Predictive - Value - of Tests | HubA | 8 |
| Pregnancy | Adolescen | 8 |
| Sex-Distribution | benA | 8 |
| Wounds-and-Injuries- mortality | Child | 8 |
| Acute-Disease | -2171 2619 DUG-U | 7 |
| Age-Factors asibut2-avi | Retrospect | 7 |
| Wounds,-Nonpenetrating-radiography | s-08 | 7 |
| Accidents,-Traffic-mortality | - Jones V | 6 |
| Case-Control-Studies | Prospective | 6 |
| Chronic-Disease | gu - wono 1 | 6 |
| Emergency-Medical-Services | Tomograph | 6 |
| England | Risk-F | 6 |
| Evaluation-Studies | 1094.000 | 6 |
| Fracture-Fixation,-Internal | Sev | 6 |
| Heart-Injuries-complications | 71-,210 clisters I as A.I | _ |
| Hospitalization | Emerge | 6 |
| Infant, Newborn stab-lastinemun-bns-sodedate-sillari | Accidents | 6 |
| Multiple-Trauma-etiology | 7.T-9 | 6 |
| Multiple-Trauma-therapy anoitsoligmos-ashul | Thoradic-In | 6 |
| Pelvic-Bones-injuries | 68-59 | 6 |
| Postoperative-Complications-radiography | YORL | _ |
| Sex-Factors eigenpaid - amus | mi-elgiluM | 6 |
| Spinal-Fractures-radiography | | 6 |
| Stress-Disorders,-Post-Traumatic-diagnosis | | |
| Wounds,-Nonpenetrating-etiology | Mumple-112 | 6 |

(Contd...)

Informetrics on accidents and trauma

| Acetabulum-injuries | - 5 |
|--|------------------|
| Adaptation,-psychological | 5 |
| Brain-damage,-chronic-diagnosis | 5 |
| Cerebral-Angiography | 5 |
| Cervical-Vertebrae-injuries | 5 |
| Cervical-Vertebrae-radiography | 5 |
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