

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 informer 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 informetrics. 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 occurrence 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' research papers (Table 2) show that three-authored papers were maximum (20.8%) followed by two-authored (18.1%) and four-authored (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 in 'Accidents and Trauma' research also the causes may be i) Multidisciplinary research activity, ii) Multidisciplinary application of research 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).

Language-wise 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, Inselspital, 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., Busutil A., Cobby M., Cornu E., Crowford R., DiStefano 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., Ohiozenoya 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: Alcohol, - Ethyl (4); Americium; Amyloid-Protein-AA; Amyloid-protein - AA - precursor; Antibiotics; Antibiotics, - Combined; Anticoagulants (3); Anti-Inflammatory-Agents, - Non-Steroidal; Antirheumatic - Agents; Antithrombins; Antithrombin-III, Apolipoproteins; Azathioprine; Beta-Endorphin; Calcium;

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

Checktags scores were: Animal(7); Case 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 generation 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:

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TABLE

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

COUNTRY OF RESEARCH INSTITUTE	NO. OF PAPERS PUBLISHED
U.S.A.	67
U.K.	50
Japan	38
Germany	36
Canada	15
	13
	12
Italy	
Switzerland	
Spain	08
China	05
	05
Ireland	05
Singapore	05
Belgium	04
Norway	04
Africa	03
Chile	03
Israel	03
Kingdom of Saudi Arabia	03
The Netherlands	02
Austria	02
Romania	02
Scotland	02
Sweden	02
Turkey	02
(Others (with only one paper each)	29
Total	370

TABLE 2

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

A	P	% 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 ∑ % 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)

COUNTRY 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
Bulgaria	002
Czech - Republic	002
Greece	002
India	002
Romania	002
The Netherlands	002
Austria	001
Croatia	001
Finland	001
Israel	001

TABLE 4

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

LANGUAGES	NO. OF PAPERS
English	266
German	041
Japanese	031
French	010
Italian	005
Spanish	004
Danish	003
Bulgarian	002
Chinese	002
Czech	002
Russian	
Norwegian	

TABLE 5

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

Sr. No.	JOURNAL	NO. OF PAPERS	COUNTRY	IMPACT FACTOR	IMMEDIACY INDEX
1	<i>J. Accid. Emerg. Med.</i>	22	England	-	-
2	<i>Injury</i>	20	England	0.146	0.023
3	<i>Unfallchirurg</i>	19	Germany	0.169	0.009
4	<i>J. Trauma</i>	18	USA	1.326	0.115
5	<i>Nippon -Kyobu-Geka. Gakkai-Zasshi</i>	14	Japan	-	-
6	<i>Kyobu Geka</i>	11	Japan	-	-
7	<i>Accid. Anal. Prev.</i>	08	England	-	-
8	<i>Accid. Emerg. Nurs.</i>	07	Scotland	-	-
9	<i>Eur. J. Emerg. Med.</i>	06	England	-	-
10	<i>Brit. Med. J.</i>	05	England	4.549	2.665
11	<i>Brain Injury</i>	04	England	0.880	0.125
12	<i>Intensive Care Med.</i>	04	USA	1.822	0.190
13	<i>J. Manipulative Physiol. Ther.</i>	04	USA	0.125	0.000
14	<i>Acta. Chir. Belg.</i>	03	Belgium	0.088	0.000
15	<i>Anaesthetist</i>	03	Germany	0.594	0.070
16	<i>Ann. Roy. Coll. Surg.</i>	03	England	0.735	0.327
17	<i>Arch. Orthop. Trauma Surg.</i>	03	Germany	-	-
18	<i>Behav. Res. Ther.</i>	03	England	-	-
19	<i>Can. J. Surg.</i>	03	Canada	0.476	0.116
20	<i>J. Bone Miner Res.</i>	03	USA	5.950	0.583
21	<i>J. Orthop. Trauma</i>	03	USA	-	-
22	<i>J. Trauma Stress</i>	03	USA	-	-
23	<i>J. Vasc. Surg.</i>	03	USA	2.348	0.294
24	<i>Neurol. Med. Chir. Tokyo</i>	03	Japan	-	-
25	<i>Spine</i>	03	USA	0.588	0.154
26	<i>Ugeskr. Laeger</i>	03	Denmark	-	-
27	<i>Zentralbl. Chir.</i>	03	Germany	-	-
28	<i>Am. J. Forensic Med. Pathol.</i>	02	USA	0.315	0.000
29	<i>Ann. Acad. Med. Singapore</i>	02	Singapore	-	-
30	<i>Ann. Chir. Main Memb. Super.</i>	02	France	-	-
31	<i>Am. Emerg. Med.</i>	02	USA	0.746	0.126
32	<i>Am. Plast. Surg.</i>	02	USA	0.520	0.079
33	<i>Arch. Phys. Med. Rehabil.</i>	02	USA	1.084	0.161
34	<i>Brit. J. Psychiatry</i>	02	England	2.951	0.578
35	<i>Calcified Tissue Int.</i>	02	USA	2.763	0.134

(Contd...)

continued Table 15

SIR. NO.	JOURNAL	NO. OF PAPERS	COUNTRY	IMPACT FACTOR	IMMEDIACY INDEX
36	Can. Assoc. Radiol. J.	02	Canada	0.287	0.061
37	Childs Nerv. Syst.	02	Germany	0.573	0.109
38	Chirurg	02	Germany	0.505	0.100
39	Cortex	02	Italy	1.569	0.119
40	Eur. J. Surg.	02	Norway	0.440	0.081
41	Hepatogastroenterology	02	Greece	0.713	0.016
42	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	Kao-Hsiung-I-Hsueh-Ko-Hsueh-Tsa-Chih.	02	Taiwan	-	-
47	Khirurgia - 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 Cardiol.	02	Spain	-	-
55	Z. Kardiol.	02	Germany	0.499	0.169
56-185	Journals with only one article each	130			
	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	ΣJ	P	J. P	Σ J.P
001	001	22	022	022
001	002	20	020	042
001	003	19	019	061
001	004	18	018	079
001	005	14	014	093
001	006	11	011	104
001	007	08	008	112
001	008	07	007	119
001	009	06	006	125
001	010	05	005	130
003	013	04	012	142
	027	03	042	184
028	055	02	056	240
		01	130	370

TABLE

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

Z	A	J	BM
I	125	009	-
II	115	046	5.1
III	130	130	2.8

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
1	04	004
2	34	068
3	56	168
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	03	042
15	01	015
16	02	032
17	01	017
20	01	020
23	01	023
25	01	025
Total	370	2025

TABLE 9

High frequency keywords in the titles of the publications on 'Accidents and Trauma' retrieved from MEDLINE database on CD-ROM (1995-97)

KEYWORD	FREQUENCY	KEYWORD	FREQUENCY
TRAUMA	157	DISLOCATION	7
INJURY	93	EARLY	7
ACCIDENT	87	EFFECT	7
CASE	80	EVALUATION	7
PATIENT	48	FACTORS	7
EMERGENCY	36	HOSPITAL	7
REPORT	35	PELVIC	7
RIUNT	32	REGION	7
FRACTURE	31	TRACHEA	7
RUPTURE	29	TRAFFIC	7
CHILD	21	TRICUSPID	7
POST TRAUMATIC	20	ASSOCIATED	6
MANAGEMENT		ANEURYSM	6
ARTERY	18	BURN	6
FOLLOWING	18	CLINICAL	6
HEAD	16	COMPLICATION	6
MOTOR VEHICLE	16	COURSE	6
	10	DISRUPTION	6
	10	JOINT	6
	15	LIFE	6
	15	MORTALITY	6
	15	PREVENTION	6
	15	REGURGITATION	6
DIAGNOSIS	14	RESULT	6
AFTER	13	SUCCESSFUL	6
SEVERE	13	SURGERY	6
THORACIC	13	YOUNG	6
SURGICAL	12	ADULT	5
ABDOMINAL	11	AORTA	5
AORTIC	11	ASPECT	5
CHEST	11	CRANIAL	5
EPIDEMIOLOGY	11	DELAY	5
OUTCOME	11	FEMORAL	5
CARDIAC	10	HAEMATOMA	5
COMPARISON	10	IMPACT	5
REVIEW	10	INDICATION	5
STRESS	10	LIMB	5
VICTIMS		LITERATURE	5
WHIPLASH		MUSCLE	5
CAUSE	9	NON PENETRATING	5
CERVICAL	9	PRACTICE	5
PREHOSPITAL	9	PREDICTION	5
ANALYSIS	8	REDUCE	5
DISORDER	8	RISK	5
ELDERLY	8	SERVICE	5
FATAL	8	SPINE	5
INCIDENCE	8	SUPPORT	5
MAJOR	8	THERAPY	5
MINOR	8	TIME	5
MULTIPLE	8	ADMISSION	4
PAEDIATRIC	8	AIRBAG	4
SYNDROME	8	ANTERIOR	4
DEATHS	7	AUTOMOBILE	4

(Contd...)

continued table 9

KEYWORD	FREQUENCY
CHANGE	4
CHARACTERISTIC	4
COMPLETE	4
COMPUTER	4
DATA	4
DIAPHRAGM	4
DISSECTION	4
	4
	4
	4
	4
	4
INTERNAL	4
ISOLATED	4
KNEE	4
LEFT	4
LOWER	4
LUMBAR	4
MECHANISM	4
MEDICAL	4
MOTOR CYCLE	4
NECK	4
NERVE	4
OCCIPITAL	4
PATHOLOGY	4
PREGNANCY	4
PRESENTATION	4
PRIMARY	4
PSYCHOLOGY	4
RATE	4
REACTION	4
RELATED	4
REPAIR	4
RIGHT	4
ROAD	4
SECONDARY	4
SPONTANEOUS	4
SEVERE	4
TOMOGRAPHY	4
TRANSPORTATION	4
YEAR	4
ABUSE	3
ACCURACY	3
ADOLESCENT	3
ADVANCED	3
AGE	3
ALCOHOL	3
APPROACH	3
ASSOCIATED	3
ATRIUM	3
BILATERAL	3
BLEEDING	3
BONE	3

KEYWORD	FREQUENCY
CLINICAL	3
CLOSE	
CONCOMITANT	
CORONARY	
DEVELOPMENT	3
DRIVERS	3
EXPERIENCE	3
FAILURE	3
GENERAL	3
GROUP	3
HELICOPTER	3
HISTORY	3
	3
	3
	3
	3
	3
	3
LONGTERM	3
MERCY	3
METHODOLOGY	3
MISSED	3
NORTH WALES	3
ORGANS	3
ORTHOPEDIC	3
PEDESTRIAN	3
PEOPLE	3
PERFORATION	3
PERICARDIAL	3
PERSONALITY	3
PLATELET	3
PRESENTATION	3
PROGRAMS	3
PROSPECTIVE	3
PROTOCOL	3
PULMONARY	3
RADIOLOGICAL	3
RECONSTRUCTION	3
RESPONSE	3
RESUSCITATION	3
RETROSPECTIVE	3
ROLE	3
SCAN	3
SEATBELT	3
SURVIVAL	3
THORACTOMY	3
THROMBOSIS	3
U.K.	3
UNIT	3
UTERUS	3
VENTRICULAR	3
WOMEN	3

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
1	KANNUS P.	10
2	PARKKARI J.	6
3	VUORI I.	6
4	BLANCHARD E.B.	4
5	BRYANT R. A.	4
6	HARVEY A. G.	4
7	SCHWEIBERER L.	4
8	SIEVANEN H.	4
9	TEANBY D. N.	4
10	TSCHERNE H.	4
11	BOOT D. A.	3
12	GOH S. H.	3
13	GORMAN D. F.	3
14	LOW B. Y.	3
15	NAST KOLBE D.	3
16	NIEMI S.	3
17	RADANOV B. P.	3
18	ROBERTSON C. E.	3
19	RUCHHOLTZ S.	3
20	SATURZENEGGER M.	3
21	TAYLOR A. E.	3
22	WATANABE K.	3
23 - 94	AUTHORS WITH TWO PAPERS EACH (2 x 72)	144
	AUTHORS WITH ONE PAPER EACH	1173
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	
Aged	
Child	
Accidents-Traffic	
Child,-Preschool	
Retrospective-Studies	
Aged,-80-and-over	
Infant	
Wounds,-Nonpenetrating-complications	
Prospective-Studies	
Follow - up - Studies	23
Incidence	23
Tomography, - X-Ray-Computed	22
Risk-Factors	18
Time-Factors	
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	

(Contd.)

Accidental - falls	8
Accidents,-Traffic-psychology	8
Cause-of-Death	8
England-epidemiology	8
Fatal-Outcome	8
Predictive - Value - of Tests	8
Pregnancy	8
Sex-Distribution	8
Wounds-and-Injuries- mortality	8
Acute-Disease	7
Age-Factors	7
Wounds,-Nonpenetrating-radiography	7
Accidents,-Traffic-mortality	6
Case-Control-Studies	6
Chronic-Disease	6
Emergency-Medical-Services	6
England	6
Evaluation-Studies	6
Fracture-Fixation,-Internal	6
Heart-Injuries-complications	-
Hospitalization	6
Infant, Newborn	6
Multiple-Trauma-etiology	6
Multiple-Trauma-therapy	6
Pelvic-Bones-injuries	6
Postoperative-Complications-radiography	-
Sex-Factors	6
Spinal-Fractures-radiography	6
Stress-Disorders,-Post-Traumatic-diagnosis	-
Wounds,-Nonpenetrating-etiology	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
Great-Britain	5
Heart-injuries-surgery	5
Magnetic-Resonance-Imaging	5
Multiple - Trauma - Complications	5
Outcome-assessment-Health-Care	5
Questionnaires	5
Recurrence	5
Trauma-Centers	5
Tricuspid-Valve-Insufficiency-etiology	5
Tricuspid-Valve-Insufficiency-surgery	5
Whiplash-Injuries-complication	5
Wounds,-Nonpenetrating-epidemiology	5
Wounds,-Nonpenetrating-therapy	5
Wounds -and-Injuries-therapy	5