

**BRIEF COMMUNICATION****CONTRIBUTION OF JIMMA UNIVERSITY TO PROVIDE SCIENTIFIC INFORMATION AND RESEARCH CULTURE IN ETHIOPIA****Morankar Sudhakar N<sup>\*</sup>, MSc, PhD, HCMTC, PGDP, Deshpande Ragini V., MSc, MPhil,****ABSTRACT**

**Background:** *Ethiopian Journal of Health Sciences* is published by Jimma University since July 1990 to provide scientific and technological information on health and related fields for informed planning and decision-making and to enable researchers share their scientific work, observations and experiences. This study does the content analysis of *EJHS* regarding its contribution publishing the type of articles, discipline of the study, cultural area (urban/rural), and region of the study, research conducted by (University/college), topics of research and other variables.

**Methods:** Broad categories as variable of each article of all the volumes available in Jimma University were entered in the software SPSS 11.0. Interpretation was based on the simple frequency analysis.

**Results:** A total 209 articles in 15 volumes until January 2005 were analyzed. The journal is regularly published in January and July every year (87%). Emphasis was on original articles (70%) published an average by 2 authors holding Bachelor (55%) and Master (35%) degree. Medical sciences were the dominating discipline publishing 50% articles followed by social and behavioral sciences (22%). Majority research was conducted in urban (82%) by Jimma (82%) university in Oromiya (76%) region. Major topics studied were on communicable diseases (22%), environmental health (11%), demography/family planning (10%), nutrition (9%), pharmacy & drug testing (8%) using quantitative methods (86%).

**Conclusion:** *Ethiopian Journal of Health Sciences* served its primary purpose providing scientific and technological information regularly. Research community needs to conduct research in rural areas with emphasis on social and behavioral sciences using qualitative methods.

**KEY WORDS:** *Ethiopian Journal of Health Sciences, Content analysis, Jimma University.*

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## INTRODUCTION

The print journal builds a collective knowledge base, communicating information, validating the quality of research and building scientific communities. Some authors see a scientific journal as an entity with its own profile, consisting of a combination of focus, community of readers and contributors and traditions, including articles in a traditional format (1). Scientific validity is the most important part of the journal, which contributes to the knowledge generation or validating the current theories (2). African-published journals are considered important to academic work, both in teaching and research. The reasons given were that journals published in Africa are contextual and the results presented and discussed are relevant to the African environment and conditions. However, African Journals are being given importance only by 19% and 18% of the

academic staff and students in the University of Ghana (UGL) and at University of Zambia (UNZA) as "They need to be more regular"; "Their coverage of subject matter is insufficient"; "Some of the quality of research is below standard"; "Some are not very well edited". These opinions were reflected in the improvements that were suggested (3). The need for better-researched articles was cited by 16% of those at (UGL) and 35% of those at UNZA, whilst the need for better refereeing (2, 3) and editorial control was included by 13% of those at UGL and 39% of those at UNZA (3).

Internet search has not reflected on any such studies conducted in Ethiopia on any of the Ethiopian journal. This inspired the authors to do content analysis of the journal titled "Ethiopian Journal of Health Sciences (EJHS)" which is being uninterruptedly published by the Jimma

University for last 15 years. The analysis considers three major parts of each article as: I. Administrative content of the article (study type, number of authors, research/study conducted at, first author's institution/department/faculty, location of institution, first author's degree), II. Study area- geographic coverage (cultural area – rural, urban - of the study, region of study area), III. Scientific content of the article (type of article, type of discipline, subjects studied, broad topic of the study, broad subjects (areas) of the study, method of study, recommendations given). This analysis shows how far the journal has covered the health research needs of Ethiopian context. Such reviews provide a window on current trends and research in the field of studies of discipline of the journal. In it, scholars, educators, and policymakers can find pertinent information about the discipline (4). This review will help: (a) scholars engage in the kind of dialogue and debate that will shape the field of health studies in the future; (b) graduate and undergraduate students understand the major issues in health studies and identify promising opportunities for research; and (c) educators keep up with new ideas and research.

EJHS is a publication of the research and publications office of Jimma University (JU). The first issue of the journal was published as Bulletin of Jimma Institute of Health Sciences (JIHS) Vol.1, No.1, in July 1990. Bulletin received International Standard Serial Number (ISSN) 1025-9732 in the year January 1996. When the journal was launched the need was felt that a very few trained medical and public health professional remained in didactic atmosphere and majority were working in Government and other organizations. Research undertaking was lacking to a large extent. The reasons

were: there was no research infrastructure built within the health system; no efficient flow or exchange of scientific information among professionals, working in isolation, the lack of understanding by many that research is a problem solving tool, the low level of research capability and so on. Thus the aim of JIHS Bulletin was to meet the professional needs of its readers and the objectives were (5):

1. To encourage, stimulate and promote research among members of the academic community
2. To provide scientific and technological information for the faculty and staff
3. To provide formal means for members to share observations, experiences and ideas
4. To serve as a link for researchers active in medicine, public health and related fields
5. To introduce the various aspects of the Jimma Institute of Health Sciences to a academic and other organizations
6. To nurture “academic culture” among professional instructional staff at the Institute

After 7 years of publication as bulletin of JIHS the name was changed to Ethiopian Journal of Health Sciences. Last issue of bulletin was Vol.7, No.2 in July 1997 and first issue of Ethiopian Journal of Health Sciences was Vol. 8, No.1 in January 1998. In these issues there is no explanation for the change from Bulletin of Jimma Institute of Health Sciences to Ethiopian Journal of Health Sciences except mentioning on the cover page of Vol. 8, No.1, 1998 as formerly Bulletin of Jimma Institute of Health Sciences. However, significant changes on page iii of Vol. 8, No.1 are that the original 6 objectives mentioned in bulletin are being quizzed in 2 objectives as:

1. To provide current scientific and technological information on health and related fields for informed planning and decision-making.

2. To contribute to the scientific knowledge and practices in medicine, public health and related fields by providing a formal means for researchers to share their scientific research works, observations and experiences.

Two members of editorial board were replaced and one post of associate editor in chief was created and post of publication manager was renamed as business manager but currently this position is abolished. However, editorial consultants remained the same. New ISSN 1029-1857 number was received to EJHS from July 1998.

The articles published are on original research findings, observations, review articles, case reports and book reviews. All the manuscripts are sent to at least two experts in the field for review. The guidelines for the submission of manuscripts are in accordance with the “Uniform requirements for Manuscripts submitted to Biomedical Journals” published in *New England Journal of Medicine*; 1997; 336: 309 -15 (6, 7).

In consistent with the original policy of the publication of Bulletin the EJHS is published twice a year in January and July. Initially the bulletin had limited but structured information for contributors. In Bulletin abstract was allowed up to 200 words and was not structured. But in journal editorial board accepted “Uniform Requirements for Manuscripts Submitted to Biomedical Journals” published in *N. Eng J. Med*, 1997; 336, 309-15. Then abstract has become 250 words. In bulletin there was no word limits mentioned for original, review articles and brief communication. However, it was limited to 3000 words for original article, 5000 words for review articles and 1500 words for brief communication and case reports as uniform manuscript policy. There is no consistent policy of writing editorials since beginning of the bulletin. Editorials are written as and when the editorial board felt.

**MATERIALS AND METHODS**

Content of the article was categorized in major variables. Major variables were volume number, issue number, year of publication, month of the issue, type of issue, type of article, discipline of the study, cultural area of the study, region of the study area, study type (base of study), number of authors, research (study) conducted by, place of institute, first author's degree, first author's institute/department/faculty, subjects studied (study conducted on), broad topic of the study, broad subjects of the study, method of study and recommendations spelt out by the study. These variables were created in the SPSS11.0, a computer based statistical package, and all the articles published since inception, July 1990, till January 2005 in 15 volumes were entered. Simple frequency tables of each variable were interpreted with valid percentages. Analysis purpose the data is organized in major topics as:

**Administrative content of the article** (study type, number of authors, research/study conducted at, first author's institution/department/faculty, location of institution, first author's degree)

**Study area - geographic coverage** (cultural area – rural, urban - of the study, region of study area), and

**Scientific content of the article** (type of article, type of discipline, subjects studied, broad topic of the study, broad subjects (areas) of the study, method of study, recommendations given)

**RESULTS**

In 15 volumes of the journal, total 209 articles were published (Table – 1). An average 8.7 articles were published in each issue. More than half (53%) of the articles were published in issue number one and 44 percent in issue number two and remaining 3 percent were published in special issue. The journal has been published regularly as decided in January (42% articles) and in July (44% articles). Only few issues of bulletin (14% articles) were published in other months and there after all the EJHS volumes were published in the months of July and January every year. About one third (34%) articles were published in bulletin and 63 percent in EJHS and 3 percent in special issues.

**Table 1.** Details of the journal

Particulars	Number	% Articles (N=209)
Year of publication of 1 <sup>st</sup> issue as bulletin	July, 1990	-
Year of change in name as Ethiopian Journal of Health Sciences	January 1998	-
Number of volumes analyzed	15	-
Total of number of articles analyzed	209	-
Total articles published the months of		
January Issue	87	41.6
July Issue	92	44.0
Articles published in		
Bulletin	72	34.4
EJHS	131	62.7
Special issue	6	2.9

**Administrative content of the article**

**Study type:** Jimma hospital is the main hospital in Oromiya region and serves people in the radius of 500 km. People visiting hospital have provided a unique opportunity to the researchers to collect their information from patients or relatives in the hospital premises hence one third of the articles were hospital based and one fifth were laboratory based. Despite the Jimma University's flagship approach as community based service and research since its inception researchers were not attracted to conduct research in rural areas to collect the information (Table - 2). For 15% articles the data were collected within university campus from students, staff, health workers, and staff of students and staff lounge. Three percent studies were conducted on school children.

**Number of Authors:** There were an average 1.92 authors per article ranging from 1 to 6. About half of the articles (48.3%) were single authored (Table - 2) and only 7.7 percent articles had a large team ranging form 4 to 6 authors. This shows that the team members in the study have been given authorship as per their contribution.

**Research/Study conducted at:** As Ethiopian higher education system is still developing and only universities has the capacity to conduct research and most of the studies (90.4%) were conducted by university departments (90.4%) and very few articles were conducted by government health departments (7.2%) and other institutions (1.5%). Other specialized institutions may not prefer to publish their research in EJHS as it has a limited reach to Ethiopia only.

**Table 2.** Administrative content of the article

Particulars	Number	% to total articles (N=209)
<b>Study type</b>		
Hospital/service based	74	35.4
Community based	58	27.8
Laboratory based	40	19.1
<b>Number of authors of article</b>		
One	101	48.3
Two	54	25.8
Three	38	18.2
<b>Research Study conducted at</b>		
University Departments	189	90.4
Government Hospital/ Health Centers	15	7.2
<b>1<sup>st</sup> Author's Institution/Department Faculty</b>		
University Departments	185	88.5
Special Institutions	10	4.8
<b>Place of Institute</b>		
Jimma	171	81.8
Addis Ababa	24	11.5
<b>First Author's Degree</b>		
Bachelors only	116	55.5
Masters	72	34.5
PhD/ DSc / DrPh	14	6.7

*Note: for each variable only important detail are given showing only high percentages.*

**First Author's Institution/ Department / Faculty:** Majority of authors belonged to university departments (88.5%) and specialized institutions (4.8%). Remaining authors belonged to government hospitals and health centers (3.8%), other colleges (1.4%) and overseas institutions (1.5%).

**Place of Institute:** Jimma University had published majority of articles (82%) followed by the institutions located at Addis Ababa (12%). About 5% articles were published by other universities in Ethiopia and 1.5% in Cairo, Egypt. This is but natural as Jimma University has large number of departments and research at undergraduate level is compulsory. This provides ready made articles to publish in time and hence the journal is regularly published in time.

**First Authors Degree:** As majority of the articles were from Jimma University and selected from the undergraduate research more than half (55.5%) of the articles were authored by bachelors. Bachelor's research methodology is quite rigorous in Jimma University for their research projects. Now

**Region of the study area:** As majority of the articles are urban based studies and Jimma University serves Oromiya region, majority of the research is conducted in Oromiya and Addis Ababa (Table - 3). At least one article has been published from the regions Amhara, Somali, SNNPR, Gambella, Dire Dawa, and Tigray. There is no single article published from the Afar, Harere and Beninshegul in EJHS. There is the possibility that in these regions research might have been conducted and published elsewhere which is beyond the scope of this study. Based on these findings Jimma University, Ministry of Education and Ministry of Health should direct their efforts to gain more information on these

in many universities masters programmers are initiated since last 5 years as well as the students who did their research at masters outside the country had shared more than one third (34.5%) articles in the journal. Share of PhD/DSc/DrPh is very small (6.7%) as faculty members are undertaking their PhD outside the county. This shows that there is an urgent need to accelerate higher education particularly Masters and PhDs to improve further quality of research. Remaining 8.3% articles which appeared in bulletin have not mentioned the authors.

#### **Study Area - Geographic coverage**

**Cultural area of study:** As discussed elsewhere in this paper, as majority of studies are hospital based, naturally majority of the research is being conducted in urban area (82.3%, Table - 3). This gives further research direction to conduct more research in rural areas as 85% of the Ethiopian population lives in rural areas. The 6.7% articles were laboratory based hence cultural area analysis becomes irrelevant to such articles. Other universities which are close to these regions or situated in the region have to pay more attention to conduct research in their regions.

#### **Scientific content of the article**

**Type of article:** Journal has fulfilled its policy publishing original articles (70%), brief communications (10%), and case report (5.7%) as major contribution (Table - 4). Remaining 14.3% articles are pedagogical, book review, features and abstracts. Journal could not publish much review articles as critical thinking has not much developed in the higher education circle in Ethiopia. This will take its own time to improve the quality of education as well as research.

**Table 3.** Study area - Geographic coverage

Particulars	Number	% to total articles N=209
1. Cultural Area of Study		
1.1 Rural	23	11.0
1.2 Urban	172	82.3
2 Region of the study area		
2.1 Oromia	159	76.1
2.2 Addis Ababa	23	11.0

*Note: For each variable only important detail are given, showing only high percentages.*

**Table-4.** Scientific content of the article

Particulars	Number	% to total articles N=209
Type of article		
Original article	146	69.9
Brief communication	21	10.0
Case Report	12	5.7
Discipline of the study		
Public Health and Medical sciences	102	48.8
Social and behavioral sciences	45	21.5
Environmental sciences	17	8.1
Subjects studied		
Human	151	72.2
Zoological species	12	5.7
Liquids	9	4.3
Broad Topic of the study		
Pharmacy and Drug Testing	17	8.1
Nutritional problems	14	6.7
HIV/AIDS epidemiology	13	6.2
Broad subject (areas) of study		
Communicable Diseases	46	22.0
Environment and Health	23	11.0
Demography and family planning	21	10.0
Method of study		
Quantitative	180	86.1
Qualitative	19	9.1
Recommendation given in the article		
Yes	168	80.4
No	41	19.6

*Note: For each variable only important detail are given showing only high percentages.*

**Discipline of the Study:** Jimma Institute of Health Sciences was established in 1983. School of Medicine and School of Pharmacy were opened at the Institute and other health related programmes began during 1983 – 1988. Public Health and

Medical Sciences is the dominating discipline to publish their articles in the journal (49%) where as Social and Behavioral Sciences stood second (22%) to understand problems of the communicable diseases (Table - 4). Remaining 21% of studies cover nursing, epidemiological & biostatistics, anthropometric, nutrition, environmental sciences, agriculture, education and management. It is the need of the time to pay more attention towards social, behavioral, community, and public health aspects.

**Subjects Studied:** Human subjects were studied more (72%) compared to other species or required natural and other resources (Table - 4). Remaining 17.8% subjects were botanical species, environmental work, secondary information, zoological species, liquids and so on. Communicable diseases were the major problem studied with the behavioral aspects of the human being. Non-equipped laboratories at international standards may not have allowed researchers to carry out sophisticated laboratory tests, which further might have hampered due to non-availability of the skilled staff.

**Broad Topics of the study:** There were varieties of the specific topics studied, which ranged up to 130 originally. We further regrouped these specific topics into broad topics, which also range up to 53 categories. In that pharmacy and drug testing had more articles (8%). Nutritional problems (7%) and HIV/ AIDS Epidemiology (6%) stood next (Table - 4). Variety of health problems Ethiopia is facing and every aspect has to be given attention.

**Broad subjects (areas) of study:** 53 broad topics were categorized in 17 broad subjects of studies based on K. Parks (8) chapter plan of the book titled: preventive and social medicine. The research articles were more on the health problems of Ethiopia such as communicable disease

(22%), environment and health (11%) and demography and family planning (10%). Other areas are nutrition and health (9.1%), pharmacy and drug testing (8.1%), obstetrics, paediatrics and genetics (6.7) and social sciences and medicine (6.2). Other broad subjects are health care system, management information system, non-communicable diseases, medical anthropology, health education, occupational health and so on.

**Method of Study:** As Jimma University has emphasized and adopted western models of curriculums for medical and public health faculty, majority of the studies (86%) used quantitative methods and only 9% studies have adopted qualitative research method. Quantitative methods included are longitudinal study, cross-sectional study, randomized trial, case control, comparative, bacterial count method, descriptive epidemiological study, retrospective, prospective, attitudinal, and bio-chemical. Qualitative methods clubbed in 9% are content analysis, case report, radiological case report, ethno-botanical, language, and case study. Researchers find it easy to adopt quantitative methods for data collection as it is easy to tick mark the structured questions and easy to adopt quantitative methods for data collection as it is easy to analyze once the data is inputted in computer based soft ware. Research students are reluctant to use qualitative methods, as they are time consuming for data collection as well as for analysis. Quantitatively how much problem has been analyzed and estimated. Now Ethiopian research community has to adopt qualitative research methods to understand deeply the problems as why and how to mitigate them? This will enrich the research and give deeper understanding about the problems, which may lead to more effective solutions and policy formulations.

**Recommendations given in the articles:**

As recommendation is an optional component of the manuscript which could be a part of the discussion and conclusions, one fifth of the articles have not mentioned prominently as recommendation. Recommendation section would lead to analyze further how these recommendations have been used by the policy makers, researchers, students and teachers. Further research has to be conducted to understand the utility of the journal.

**DISCUSSION**

The journal fulfils the objectives for what it was started providing the platform to publish young researcher's research results as original articles providing new information to scientific community, policy and programs. Since this is one of the prime journal of the Health Sciences in Ethiopia it has to shift to the research focus guiding researchers to take up their research in rural communities and if possible to cover all the regions of the Ethiopia. More research may be conducted or taken up by Masters and PhD holders with rigor using mixed (qualitative and quantitative) methods (9) to understand how much the problem is and why the problem exists. Qualitative and critical theory methods are underrepresented in this journal. Scientific and research community should emphasis now on critical thinking to review the issues or problems of Ethiopian's health. This will fulfill the Jimma University's commitment mentioned in section 11 article 67 (2) of Proclamation to provide for higher education and institutions of higher learning in Ethiopia as higher learning institutions shall engage in continuous assessment to make sure that their programs of study, curricula and areas of research and specialization are in tune with

the current needs of the country, stakeholders and users of their respective products and services (10, 11). Research community should also evaluate now how much the research results have been useful for policy formulations or modifications in programmes and how much it has been useful to benefit the development of society at large. The database created in SPSS 11.0 for analysis of this study could be used for continuous updating of all future issues published by Research and Publication office. This updated database can be kept on Internet for the access to the users. This database will be useful to students and teachers for selection of their research topic, literature review getting the list of all articles of that particular topic. Each scientific journal should develop a system of evaluation and the utilization of the journal as how much it has been referred by other researchers, academicians, students, policy planners and programme managers.

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