Bibliometrics is used for measuring the scientific influence of individual journals, authors, research institutions as well as determining hot topics, newly-emerged subjects, highly-cited sources and visualizing scientific collaboration networks, etc. (1). The use of bibliometric methods to analyze the knowledge structure and scientific features of a particular journal provides a good guide for its potential authors and some directing references for the future development of the journal. It also reveals its current scientific status and development trend and provides a basis for improving its quality (2).

Gastroenterology and Hepatology from Bed to Bench (here, abbreviated as GHFBB) is the official journal of the Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran. It is indexed and abstracted in ISC, Scopus, and PubMed (3). This study aimed to analyze and visualize its output from this perspective over the recent decade (2011-2021).

The Scopus database was searched on January 25, 2022 using the query "Gastroenterology and Hepatology from Bed to Bench (GHFBB) from a bibliometric perspective (2011-2021). Gastroenterol Hepatol Bed Bench 2022;15(3):190-193. https://doi.org/10.22037/ghfbb.v15i3.2621)."

Overall, 666 documents were published by GHFBB during 2011-2021. The mean rate of their h-indexes was 30. The citation counts ranged from 0 to 258, with H-index and citations per document were used as measures of quality of documents. Visualization techniques were applied to depict research institutes and collaborating countries for discovering social structure and collaborating networks as well as that of keyword co-occurrence analysis for depicting the conceptual structure. Data visualization was done with VOSviewer. H-indexes and mean rates of citations per documents were measured from CSV file extracted from the database.

Some main bibliometric indicators were compiled. The Scopus database was searched on January 25, 2022 using the query "Gastroenterology and Hepatology from Bed to Bench (GHFBB) from a bibliometric perspective (2011-2021)." The needed information was extracted from Scopus. The full bibliographic information as well as citation counts and cited sources were downloaded as a CSV file.

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Abstract: Gastroenterology and Hepatology from Bed to Bench (GHFBB) is the official journal of the Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran. It is indexed and abstracted in ISC, Scopus, and PubMed (3). This study aimed to analyze and visualize its output from this perspective over the recent decade (2011-2021).

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Overall, 666 documents were published by GHFBB during 2011-2021. The mean rate of their h-indexes was 30. The citation counts ranged from 0 to 258, with
534 (80%) documents with at least one received citation. Total citation counts equaled 5079, averaging 7.63 citations per document. All documents were in English and in the medical field.

The majority of documents were original research articles (525; 78.83%), followed by e-reviews (79; 11.86%). The mean rates of citations per document were 18.41 for reviews and 6.59 for original articles. The growth trend of the journal was increasing during this time span ($R^2 = 0.34$).

Table 1 shows some bibliometric indicators of the 15 most-cited documents of GHFBB. The top two documents entitled "Sample size calculation in medical studies" (with 258 citations, 28.67 citations per year) and "How to control confounding effects by statistical analysis" (with 213 citations and 21.30 citations per year), both as original articles on medical statistics. The topic of 11 documents was gastrointestinal cancer, with colorectal cancer with 5 documents as the main considered topic. Protein-protein interaction network was considered in five documents.

The collaboration network of 26 collaborating institutes publishing at least 5 documents in GHFBB formed five clusters. The institutions (and their total link strength amounts) were as follows. The first cluster included 7 institutes with Islamic Azad University (75) and Milton Keynes University (11) as main ones. The second cluster included 6 institutes, and Iran UMS (36) and Isfahan UMS (31) were main ones. The third cluster had 5 institutes in which Shahid Beheshti UMS (238) and Tehran UMS (65) were the main universities. The fourth cluster consisted of 5 institutes with Pasteur Institute, Iran (42), and Tabriz UMS (22) as main influencing research institutes. The fifth cluster included three universities, with Shiraz UMS (20) as the top one.

Among countries actively publishing in GHFBB, Iran ranked first with 505 documents, followed by the UK (81), Italy (42), and the USA (31), respectively. Netherlands (16.67), Iran (8.23), Italy (8.12), and the UK (7.63) ranked first to fourth in rates of citations per document. In total, 41 countries worldwide have contributed to GHFBB.

"Iran," "human," "non-human," "celiac disease," and "prevalence" were the five most frequent keywords. Documents with the keywords “non-
human,” “risk factor,” “prevalence,” “genetic association,” and “colorectal cancer” were the top highly frequent keywords in documents with high numbers of citations per document.

Figure 1 presents the co-occurrence network of 35 keywords with at least 40 frequencies in three clusters. The first cluster with 12 keywords focused on clinical studies on gastroenterology. This cluster included keywords such as “human,” “human tissue,” “disease association,” “celiac disease,” “histopathology,” “abdominal pain,” “clinical feature,” and “gluten free diet.” Focusing on the middle age group, the studies were mainly reviews and case reports in this cluster. The second cluster included 12 keywords, i.e. “nonhuman,” “polymerase chain reaction,” “genotype,” “colorectal cancer,” “unclassified drug,” “genetic association,” “human cell,” “risk factor,” and “gene expression,” mainly related to all age groups. Most were experimental and controlled studies. The third cluster consisted of 11 keywords, such as “Iran,” “prevalence,” and “diarrhea” and included different age groups in the form of cross-sectional and major clinical studies.

The majority of documents in GHFBB have received at least one citation. The mean rate of citations per document indicator of this journal shows its acceptable scientific influence in the field, as citation and citation-related indicators are main indicators of scientific influence (4). GHFBB publishes original research articles as main scientific material. The review articles of the journal have received an acceptable number of citations. Its annual publishing trend shows that the journal found its way into the field, as the indicator is a sign of gradual development of a scientific actor (5).

Highly cited papers in a journal or a scientific field have been and are considered more important, as they cover main issues at hand (6). Highly cited documents
of GHFBB have considered cancers and protein-protein interaction, which can be a sign of their importance in research on the field.

Countries contributing and collaborating with GHFBB are pioneers in the field. However, the contribution of other African and Asian countries should be emphasized, as the issues and concerns of the journal are related to some local and regional problems. Increasing the volume of other countries’ contributions can help the journal in internationalization (7).

The variety and multiplicity in keywords and subject clusters show the evolutionary knowledge structure of topics embedded in a scientific agent (8). The majority of main topics in the field have been considered in GHFBB, as the keyword co-occurrence map and highly-frequent keyword list of GHFBB show. However, newly-emerged and local issues should be considered by authors for publication in the journal.

GHFBB has found its way in its field; however, potential gaps in the journal’s content can be detected in further bibliometric analysis and by conducting detailed item-based bibliometric visualization.

This study can help the editorial team, authors, and readers of the journal continue the establishment and development of its scientific prestige and far reach. It can be helpful for its editorial board to make decisions on its further development as well as for researchers and practitioners in the field to make better contributions to the journal.

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Ethical Statement

This study was approved by the Ethics Committee of Hamadan University of Medical Sciences with code number: IR.UMSHA.REC.1400.825.

Conflict of interests

The authors declare that they have no conflict of interest.

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