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Muhammad Arif Nadeem Saqib1,[2] and Ibrar Rafique[1]

[1]Pakistan Health Research Council, Islamabad, Pakistan. [2]Associate Professor, National Skills University, Islamabad, Pakistan. (Correspondence to: Ibrar Rafique: ibrarpmrc@gmail.com).

Abstract

Background: Health research is very important for formulating evidence-based policies.

Aims: To assess the health research funding and its output in the last 5 fiscal years (2013/14 to 2018) in Pakistan.

Methods: Information about health research funding was retrieved from 3 major local agencies, the Higher Education Commission, the Pakistan Science Foundation and the Pakistan Health Research Council. Details of funding from international donors were retrieved and the number of publications was estimated from Pubmed and Pakmedinet.

Results: A total of 1261.6 million Pakistan rupees (Rs) (US$ 8.4 million) was spent on health research in the last 5 fiscal years, the majority from local donors (P

Rs 349.8 million 2017–2018. In publications data, 24 796 original articles were published, including 16 137 Medline and 8659 non-Medline indexed. Overall there was a gradual increase in the number of publications per year, statistically significant for Medline indexed journals. Research funding had a strong correlation (Cronbach α=0.88) with publications.

Conclusion: Health research funding directly affects health research output. The funding on health research should be considered an investment rather than expenditure.

Keywords: health research, funding, investment, Pakistan

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Introduction

Health research is of paramount importance and plays a pivotal role in the improvement of existing health systems, framing evidence-based health care policy, and in generating new initiatives and advancing knowledge about problems relating to public health and their solutions (1,2). It has an important role in identifying the economic and social determinants of health, and ultimately forms the basis for improvement in health programmes and policies (3). This is beneficial to a country in many ways ranging from reducing the direct cost of disease to the development of techniques/products for treatment of disease, and is recognised as an important aspect of economic development and an evidence-based, informed approach to population health (1,2,4,5).

It is imperative for developing countries to recognise the importance of health research and gain momentum in this field (4,5). According to the World Health Organization (WHO), in low- and middle-income countries health research must address local needs, and the evidence generated should be incorporated into policy (1,2). However, the WHO Global Observatory on Health Research and Development showed that there are 73 times more health researchers in the high-income countries than in low-income countries (6). A quarter of the world's population is living in South Asia, where health infrastructure is weak. Due to low investment, there is a dearth of health research in South Asia to determine the gaps between disease and health delivery systems (7). It has been reported that researchers from South Asia contribute only 1.2% to the annual research.

As in many other countries of the Region, the health research situation in Pakistan is not satisfactory (8). Pakistan has only 25 full time equivalent public health researchers per million population (6). The poor status of health research in Pakistan is due to lack of a research culture, lack of demand for research, low capacity, unavailability of funds and improper dissemination (9). This study describes the spending on health research in Pakistan in the last 5 fiscal years and its impact on research output.

Methods

We collected information about the spending on health research during the last 5 fiscal years, July 2013–June 2018, from 3 major Pakistani funding agencies, Pakistan Health Research Council, Islamabad, Pakistan Science Foundation, Islamabad, and the Higher Education Commission, Pakistan. For the Pakistan Health Research Council the information was retrieved from the records of the Research, Development and Coordination section using a pre-designed proforma. Letters were sent to the Higher Education Commission and the Pakistan Science Foundation asking them to provide the required information. Letters were also sent to about 63 health research institutions in the country asking them to provide details of funding other than the Pakistan Health Research Council, the Higher Education Commission and the Pakistan Science Foundation. Besides this, information about international funding was retrieved from the National Bioethics Committee Pakistan, which gives ethical clearance to internationally funded projects in Pakistan (10).

The research output, i.e. number of publications in local and international journals, was collected from Pakmedinet (http://www.pakmedinet.com/) and PubMed (https://www.ncbi.nlm.nih.gov/pubmed). For PubMed, an advance search was conducted with medical subject headings (MeSH) (www.ncbi.nlm.nih.gov/pubmed) as described earlier (11). In the MeSH tree, the major topic includes all the communicable and noncommunicable diseases and health disciplines. We used the following pattern of search terms:

MeSH major topic (list of communicable and noncommunicable diseases, list of all medical and health disciplines separated by word OR), AND, affiliation Pakistan, publication date (year).

Pakmedinet was developed in 2001 and indexed about 85 health journals published in Pakistan. The list of all these journals was retrieved along with their publications and filtered for consistency, i.e. regular publication in the last 5 years. About 40 journals had regular issues, therefore their publications were counted on a yearly basis. All other local journals which did not meet the criteria of regularly publication or indexing in Pubmed were excluded.

All data were entered into MS Excel and analysed using SPSS, version 20. Pearson correlation was used to assess the correlation between funding and publication. P-value