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Abstract

Background: Several research priority-setting studies have been conducted in different countries, including the Islamic Republic of Iran.

Aims: We conducted a systematic review and evaluated the quality of the priority-setting reports about health research in the Islamic Republic of Iran.

Methods: English and Farsi databases were searched from January to July 2016 to extract reports (up to December 2015) about priority setting in health research in the Islamic Republic of Iran. We constructed a checklist to extract data from the identified studies. Articles were studied in detail and content analysis was carried out. Relevant items were scored and analysed using Microsoft Excel.

Results: We identified 36 articles. Eight articles involved all the main stakeholders. About half the articles used valid criteria for ranking. Transparency was fulfilled in 13 articles. Upstream rules and regulations were ignored in 26 articles. An implementation plan was considered in 9 articles and context analysis was demonstrated in only 3.

Conclusions: Developing standard packages for priority setting, training of researchers and improving the capacity of organizations may improve the quality of priority-setting studies in the future.

Keywords: health research, priority setting, Islamic Republic of Iran, systematic review

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Introduction

The World Health Report 2013 has identified priorities for research for universal health coverage that require national and international support. National research agendas are needed in order to increase funds, improve research capacity and to make appropriate and effective use of research findings (1,2). Health research has the potential to address constantly changing health status, especially in vulnerable populations (2). According to the Global Forum for Health Research, health researchers try to develop policies, plans, processes, activities and events in each healthcare subsector and enhance proper development of health interventions. Health research also has a role in achieving universal health coverage through making health services

more accessible and affordable. It also has a significant role in achieving Target 3 of Sustainable Development Goals: “ensure healthy lives and promote wellbeing for all at all ages” (3).

In 1990, a mismatch between health-research expenditure and the most important diseases was reported by the Council on Health Research for Development; a global, nonprofit organization established to maximize the potential of research and innovation to deliver sustainable solutions for health and development problems of low- and middle-income countries. According to an estimate in 1992, total spending on medical research in the public and private sectors was ~56 billion US dollars but < 10% of the amount was allocated to problems that are responsible for 90% of the global disease burden (4). This imbalance is called the 10/90 gap by the Global Forum for Health Research, and is mainly due to researchers’ individual preferences (4, 5) and the role of the private sector and pharmaceutical industry (6,7). Health research priority setting can reduce this gap by making research more efficient in solving the health problems of countries (8).

Several definitions have been suggested for priority setting. It is defined as a method for resource allocation or the process of choosing between competing research institutes, programmes or projects (9,10). It is also defined as the application of appropriate principles and mechanisms for evaluation of investment in research (11). Priority setting is an important element in the research management cycle (12) and can be seen as the efficient allocation of scarce research resources using explicit decision criteria (11,13).

According to some studies, health research in developing countries is not in line with the priorities of the health system (14) nor is it easily available to all (15,16). Some experts believe that priority-setting activities in health research in the Islamic Republic of Iran have failed for a variety of reasons, including inefficient budget allocation, administrative bureaucracy and ignoring problem-solving techniques (17,18). In addition to input failures, the studied priority settings have some shortcomings in their process (15). The present study was designed to assess the strengths and weaknesses of health research priority setting in the Islamic Republic of Iran.

Methods

We conducted this systematic review from January to July 2016. We searched Google Scholar, PubMed, Embase and Web of Science, with a cutoff date of December 2015. Keywords were: “research priority” or “priority” and “Iran” or “I.R.”. In addition, Magiran and SID, the most popular Persian research databases, were searched for all expressions that contained the Persian equivalent of the word “priority”. Each article was assessed by 2 reviewers for its relevance. The

references of each article were examined for new articles. Finally, 36 articles were selected for analysis (Figure 1).

We included all articles that were related to health research priority setting in the Islamic Republic of Iran, in printed or electronic publications. Articles that were not related to health research, such as health technology assessment or healthcare prioritization or those that had not been formally published were excluded.

Data were collected using a checklist that was designed by the current authors (Table 1). It comprised the main principles of similar global studies (10,20). The checklist was validated by sending it to 10 researchers and then the checklist was revised based on their opinions. The checklist was piloted through data extraction from 10 articles. Data were entered into Microsoft Excel 2016.

The following steps were conducted to gather data on priorities in health research. (1) All included articles were read in depth. (2) Content was analysed, which means that at the same time that each article was read, every part that was consistent with the definition of each criterion was highlighted and coded with the name of the criterion. (3) Extracted parts of all articles were entered in an Excel spreadsheet and scored based on the range of scales of each criterion. (4) The fulfilment of each criterion was calculated and presented as a score. Tables 2 and 3 show the scores and all statements included in the checklist criteria, respectively. Table 2
summarizes the results of each article.

Results

The questionnaire was the most important tool used in 7 of the studied articles. Our results showed that the focus group discussion (FGD) and Delphi techniques were used in 6 and 5 articles, respectively. Brainstorming and interviews were used in 7 articles each. A workshop was utilized in 3 articles.

In terms of methodology, the Essential National Health Research approach was the most frequently applied method for setting priorities in 11 articles. Descriptive studies and qualitative methods were ranked as second (6 articles) and third (4 articles), respectively. Three of the included studies used the participatory research method. The Analytic Hierarchical Process, Health System Research, mixed methods, and need assessments were each used in 2 of the studies. The documentary or econometrics method was used in 1 of the articles. Four articles

used other types of methods.

Table 2 shows that across 36 reviewed articles, 17 performed priority setting at the national level and 19 at the local level. Also, half the articles that prioritized subjects were related to disease, risk factors, health status or specific parts of a health system, and the other half prioritized all health sectors. Seventeen of the reviewed articles determined their priorities at both levels of area and subject, 8 worked only on domain and 11 were limited to the subject of priority setting.

Of the 36 articles, 8 included 4 recommended groups including researchers, managers, providers and the community among their stakeholders (Table 3). Investigating the frequency of involvement for each group separately showed that researchers, managers, providers and community members participated in 25, 22, 17 and 15 studies, respectively. Only 4 articles considered vulnerable individuals (e.g., elderly or homeless people or female-headed households) as stakeholders (
Table 3
). In terms of transparency, in 14 articles that provided different forms of explanation, only 6 presented guidelines and others merely justified their stakeholders using workshops or other methods. The rest (22) did not follow a method and only listed priorities (shown by “NA” in
Table 3
).

Eight articles considered international, national and institutional plans; however, none of them provided a mechanism to ensure conformity of results according to those plans (Table 2). Three articles implicitly referred to the importance of national or institutional plans. The rest of the articles (25) did not mention any point about important rules or plans in their priority-setting process (
Table 2
). Out of 36 studied articles, only 6 implicitly pointed to the dissemination of priority-setting results, but none of them mentioned an effective mechanism to comment upon and critique priority-setting results (Tables 3 and 4). Two articles conducted a complete analysis of political, social and economic contexts of activities, 19 conducted a brief analysis, and 15 did not have a context analysis of activities (
Table 2
). Among 36 articles, only 9 comprised an analysis of the population health status, health system, and health research system and provided recommendations about implementation (
Table 2
). Sixteen of the investigated articles did not lay out strict criteria for priority-setting processes. Among them, there were 11 articles that completely ignored ranking criteria (
Table 2

).

Discussion

In this study, we reviewed a large number of published articles on priority setting in the Islamic Republic of Iran. The majority of them had methodological limitations, including inappropriate range and composition of stakeholders, lack of strict criteria for ranking, little attention to transparency, failure to disseminate results, failure to provide a mechanism for appeals, failure to consider high-level national and international documents, absence of context analysis and lack of planning for implementing priorities.

Although a sufficient number of published articles on priority setting in the Islamic Republic of Iran were reviewed, there are many priority settings that are not published (known as grey literature). Those lists of priorities that were found through searching Google did not have methodology, and therefore did not meet the inclusion criteria, and were excluded from the analysis. Another limitation was the different levels of proceedings used. Some of them were conducted at the national level and others were at lower levels. To understand the extent of this limitation, national documents were fully analysed. There was no significant difference between the results of the analysis of national documents and findings that resulted from analysis of all the studies.

To the best of our knowledge, this is the first comprehensive systematic review of priority setting in health research in the Islamic Republic of Iran. Internationally, there were 9 systematic reviews that dealt with priority setting of health research among different countries (2, 19–25). The current systematic review differs from previous reviews because of being country specific and the large number of included studies.

According to our results, 1 of the observed problems was lack of appropriate attention to the level of determined priorities, as well as lack of correct definition of terms such as axis, domain, topic, subfield, field, subarea and area. Although we tried to show all items in the form of area and subject in Table 4 , investigating all articles showed that some mentioned a priority as “domain” while others, at a similar level, mentioned it as “topic”. Although 17 articles categorized their priority in the form of domain (or other names), only 7 performed prioritization of domains, and others only categorized priorities in terms of subjects or proposed group. Since domains on their own can help with horizontal distribution of resources among groups and departments, it seems that their prioritization should be included in priority setting.

According to our findings, the involvement rate of the main groups of stakeholders (i.e., researchers, managers, providers and community members) was 22%. This is consistent with the study that showed that 7 of 9 countries experienced limited or moderate involvement of acceptable stakeholders and only 3 (33%) included public consultation (19). In line with the findings of the current study, 3 other studies found that only 37, 21 and 25% of articles were truly representative of different disciplines (23–25). A review of 165 articles showed that, while there was close involvement of the government and researchers, the participation of other key stakeholders was limited (22). This is consistent with our findings that showed that managers and researchers participated in 21 (58%) and 24 (67%) of articles, respectively. In another study, although 4 groups of recommended stakeholders did not participate, other players such as funders, the private sector and industry participated (20). These 3 effective groups were included in 5 of the articles of the current study. We believe that, in the Islamic Republic of Iran, the fact that the majority of research funds come from government departments is the main reason for ineffective participation of funders in priority setting. Moreover, 15 (41%) of studies included some forms of public participation. Consistent with our results, other studies reported that 29 and 25% of studies considered the opinions of patients or community members, respectively (2). One study demonstrated that 18% of documents directly considered public inputs and 36% involved vulnerable groups (25). Among the articles investigated in our study, such participants were found only in 4 (11%). It seems that academic members' awareness of common methods of priority setting, more communication between different stakeholders, and being aware of the needs and capabilities of other participants are important factors in conducting priority setting with a broad range of participation.

Almost all known priority-setting models use criteria for guiding participants (20), considering important values of different disciplines, matching proposals with the main subject, and that the important issues are not ignored. Eleven (30%) articles that were investigated in our study did not mention criteria. Our results were consistent with those that showed 69, 56 and 62% of investigated articles applied criteria to determine research priorities (2). However, 1 study reported that only 18% of studies were conducted using criteria. One possible reason for ignoring criteria is the simplicity of using other tools, such as questionnaires or subjective rankings, compared to challenging features of criteria-based ranking methods. Generally, it can be concluded that defining a criterion, particularly in scientific contexts that inherently suffer from high degrees of autonomy, has a constructive role in achieving consensus. Furthermore, in contexts where information is limited, having criteria could help us to conduct priority setting in a more deliberative and rationale way. It would also help in providing some justification to satisfy funders, policy-makers and managers so that they might finance, support and utilize the priorities.

In terms of transparency, an acceptable priority setting should not only create a list of priorities but it should also present a clear report about the used approach and how and by whom priorities were identified (14). The current study revealed that only 13 articles met the transparency criteria. This is consistent with 2 studies in which transparency was fulfilled in 22

(8%) articles (19,23). In contrast, another study noted that 69% of studies met transparency criteria (24). The latter study concluded that lack of coordination between patients and researchers, and the bias resulting from funders' influence, are the main causes of ignoring transparency. It seems, because of the higher proportion of governmental health research funds, researchers do not feel the need to attract funders' attention. Besides that, policy-makers usually ignore the role of health research in policy-making and decision-making processes. This could lead to discouragement among researchers, thus decreasing their incentive to attract the attention of decision-makers.

Dissemination of information as an ethical aspect of priority setting (9,10) will be achieved if society has access to decisions and reasons of prioritization (21). In other words, the decision-making process should be clearly stated, and decisions and reasons about them should be broadly publicized (26). Publicizing the results of priority setting leads to promotion of accountability in the decision-making process (27). According to the findings of the current study, 8 (16%) of the articles met the publicizing criterion, which is consistent with a study that showed 11% of studied articles had met the criterion (19). In conclusion, it can be claimed that researchers do not believe in the necessity of informing the general population about the results of priority setting, and are concerned about their inability to respond to increased public expectations.

The process of revision based on appeals can be defined as "explicit mechanisms for revising decisions based on emerging issues or arguments" (19). Disregarding the appeal mechanism in all investigated articles in the current study can be compared with a study in which the mechanism for appeal was not considered in any of the investigated countries (19). In contrast to our results, a review of studies that were related to priority setting in Panama indicated that 2 of 3 studies had considered the appeal mechanism (21). All of the priority-setting studies that were investigated in the current study were one-time efforts, which is an indication of the lack of a revision mechanism. Based on the above-mentioned study (19), a precise mechanism for revising a decision should be included in the appeal process. It also provides a platform for hearing the voices of other stakeholders.

Based on our findings, 25 reviewed articles ignored high-level documents, which is another weakness of priority settings. Some studies have declared that high-level documents, including strategic plans, could be helpful in providing policies and legislative frameworks, guiding priorities, and creating mechanisms to encourage and support research (28). In their opinion, decisions about priority setting should be made on the basis of explicit values, and stakeholders should gain insight into the goals of priority setting and the logic behind it as well as about missions, visions, values and strategic plans of the organization (9). Other studies have mentioned that lack of compatibility with high-level goals and strategic guidance can lead to an imbalance in investment in health research (19,29). A study about priority setting in nursing was

consistent with the current research and reported that 57% of articles considered high-level documents in identifying priorities (23). In fact, ignoring high-level documents is predominantly due to lack of confidence in the authenticity of these documents and the absence of an effective tool for monitoring their application. Therefore, making the process of high-level planning and monitoring more acceptable can address the problem.

Undoubtedly, setting an appropriate time horizon, defining the targeted population and characterizing the political, social and economic aspects of the context in which the prioritization is conducted is essential. Exploration of the targeted audience ensures that appropriate language and communication methods are used for a realistic priority-setting process and final implementation (19). In the present study, 2 of the documents conducted a complete context analysis and 19 conducted a partial one. In contrast with these results, a study reported that all investigated articles conducted a context analysis at the beginning of priority setting (25). Another study reported that 92% of studies conducted a context analysis (23). Since realistic context analysis has an important role in determining the scope and focus of the priority setting, time horizon, allocated budget and other resources that are required, we recommend that it should be considered as a mandatory task in the preparatory phase of health research priority setting.

A system analysis (of health status, health system and health research system) should be conducted to propose an implementation plan. In our study, 9 (25%) articles indirectly mentioned this analysis and presented an unlimited implementation plan. A systematic review of priority setting in research in nursing indicated that 8% of articles directly proposed an implementation plan (25). In another review about national health research priority setting in Latin America and the Caribbean, 12% of articles seriously proposed an implementation plan (25). We believe that system analysis, which comprises related data, health system infrastructure, health research system capability and some scientometrics, should be carried out by experts and should be reported as a statement paper at the beginning of the process. This information provides a proper view for stakeholders to make the best choices.

Many research-priority settings in the Islamic Republic of Iran have been shown merely as a list of priorities on the websites of organizations or published in nonacademic journals and newsletters. So, this study was limited due to lack of access to the methods of conducting these studies. We found that health-priority settings in the Islamic Republic of Iran suffer from weak stakeholder composition and participation, lack of ranking criteria, little attention to transparency, no results dissemination, no mechanism for appeal, ignoring high-level documents, and absence of context analysis and implementation plans. We recommend that stakeholders minimally should consist of 4 groups (researchers, decision-makers, managers and community members). Inviting funders, industry and private sector can make it better. It is necessary to provide acceptable guidelines to explain major components of setting each priority

and to increase transparency and comparability. Ranking criteria ought to be identified because they make decisions sensible and help to achieve a consensus easily. We recommend that a newsletter could publicize the results of the priority setting. By holding workshop sessions and discussion fora with a broader range of stakeholders, an effective revision mechanism would be provided. Most importantly, as a strategy that provides guidance toward an efficient resource allocation, priority setting should be in line with high-level documents. The extent of the study, time frame, budget constraints and target population should be analysed and identified from the outset. It must be noted that the health status, health system conditions, and health research system should be carefully analysed, through which we could find the most important health problems of the community, strengths and weaknesses of the health system, and capabilities and limitations of the health research system. Finally, it should be noted that priority assessment by designing well-established indicators to monitor and evaluate compliance of performed actions with standards should pave the way to achieving goals.

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Analyse systématique des études concernant l’établissement des priorités en matière de recherche en santé en République islamique d’Iran

Résumé

Contexte : Plusieurs études sur l’établissement des priorités ont été menées dans différents pays, notamment en République islamique d’Iran.

Objectif : Nous avons effectué une analyse systématique et avons évalué la qualité des rapports concernant l'établissement des priorités en matière de recherche en santé en République islamique d'Iran.

Méthodes : Des recherches ont été effectuées dans les bases de données en anglais et en farsi entre janvier et juillet 2016 afin de trouver des rapports (jusqu'à décembre 2015) concernant l'établissement des priorités en matière de recherche en santé en République islamique d'Iran. Nous avons établi une liste de contrôle pour les critères en vue de l'extraction des données des études identifiées. Les articles ont été examinés en détail et une analyse de contenu a été effectuée. Les points pertinents ont été notés et analysés à l'aide de Microsoft Excel.

Résultats : Nous avons identifié 36 articles. Huit articles impliquaient l'ensemble des principales parties prenantes. Près de la moitié des articles utilisaient des critères de classification valides. Treize (13) articles faisaient preuve de transparence ; 26 articles ignoraient les règles et réglementations en vigueur. Un plan d'application était suivi dans 9 articles et seuls 3 mettaient en avant une analyse du contexte.

Conclusion : L'élaboration d'ensembles de normes en matière d'établissement des priorités, la formation des chercheurs et l'amélioration de la capacité des organisations pourraient avoir des répercussions positives sur la qualité des prochaines études concernant l'établissement des priorités.

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WHO EMRO | Systematic review of priority setting studies in health research in the Islamic Republic of Ir

: بحثنا في قواعد البيانات باللغتين الإنجليزية والفارسية من يناير / كانونطرق البحث
الثاني إلى يوليو / تموز 2016 لاستخراج التقارير (التي يعود تاريخها حتى ديسمبر / كانون
الأول 2015) حول تحديد الأولويات في البحوث الصحية في جمهورية إيران الإسلامية . أنشأنا
قائمة تساعد في استخراج البيانات من الدراسات المحددة . ودرسنا المقالات بالتفصيل
وأجرينا تحليلاً للمحتوى . وسجّلنا العناصر ذات الصلة وحلّلناها باستخدام برنامج
ميكروسوفت - إكسل .

: حددنا 36 مقالة . وشملت 8 مقالات جميع أصحاب المصلحة الرئيسيين . وقد استخدم ماالنتائج
يقرب من نصف المقالات معايير صالحة للترتيب . وتبين لنا أن الشفافية متحققة في 13 مقالة .
وقد لاحظنا أنه تم تجاهل القواعد واللوائح المعمول بها في الأصل في 26 مقالة . بينما
روعيت خطة التنفيذ في 9 مقالات، وتم توضيح تحليل السياق في 3 مقالات فقط .

: إن تطوير حزم معيارية لتحديد الأولويات وتدريب الباحثين وتحسين قدرةالاستنتاج
المنظمات قد يحسِّن من جودة دراسات تحديد الأولويات في المستقبل .

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