

# BMJ Open Medical overuse in the Iranian healthcare system: a systematic review protocol

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## ABSTRACT

**Introduction** Lack of resources is one of the main problems of all healthcare systems. Recent studies have shown that reducing the overuse of medical services plays an important role in reducing healthcare system costs. Overuse of medical services is a major problem in the healthcare system, and it threatens the quality of the services, can harm patients and create excess costs for patients. So far, few studies have been conducted in this regard in Iran. The main objective of this systematic review is to perform an inclusive search for studies that report overuse of medical services in the Iranian healthcare system.

**Method and analysis** An extensive search of the literature will be conducted in six databases including PubMed, Embase, Scopus, Web of Science, Cochrane and Scientific Information Database using a comprehensive search strategy to identify studies on overuse of medical care. The search will be done without time limit until the end of 2017, completed by reference tracking, author tracking and expert consultation. The search will be conducted on 1 February 2018. Any study that reports an overuse in a service based on a specific standard will be included in the study. Two reviewers will screen the articles based on the title, abstract and full text, and extract data about type of service, clinical area and overuse rate. Quality appraisal will be assessed using the Joanna Briggs Institute checklist. Potential discrepancies will be resolved by consulting a third author.

**Ethics and dissemination** Recommendations will be made to the Iranian MOHME (Ministry of Health and Medical Education) in order to make better evidence-based decisions about medical services in the future.

**PROSPERO registration number** CRD42017075481

## INTRODUCTION

Medical overuse is often defined as the services that are more harmful than beneficial, does not seem to increase the quality and quantity of life, imposes excessive costs on the patient and the healthcare system, has low quality and if the patient has enough information, he or she will not ask for it.<sup>1-3</sup>

Based on the WHO Health Systems Framework,<sup>4</sup> overuse can delay access to four main goals of health systems—improved health, responsiveness, financial risk protection and

## Strengths and limitations of this study

- To our knowledge, the study will provide the first systematic review focused on overuse of medical services in the Iranian healthcare system.
- This study could inform decision-makers and physicians to distinguish the area of overuse in medical services and plan to reduce it.
- All stages of the study (screening, quality appraisal, data extraction) will be done by two researchers independently.
- The dispersion of studies in the field of overuse and the difficulty of classifying final studies is one of the possible constraints.

efficiency—by increasing disadvantages and costs of medical services.<sup>5</sup> In a health system where overuse of medical services is prevalent,<sup>6-8</sup> it probably does not have a high-quality health service<sup>9</sup> because, according to this framework, a good health service is a service that is delivered effectively and safe with high quality and without waste of resources.<sup>10</sup> Also, in such a system, the workforce does not function effectively because of the fear of legal follow-up.<sup>4</sup>

Over the past few years, there has been a lot of effort in identifying the overuse of medical services in the world.<sup>11-13</sup> Some of these initiatives include ‘Choosing Wisely’, an initiative of the ABIM foundation, ‘Less Is More’ series by *JAMA Internal Medicine*, and ‘Too Much Medicine’ and ‘Overdiagnosis’ series by *BMJ*.<sup>14 15</sup>

As with other countries in Iran, there is little information about the amount and drivers of medical overuse in the healthcare system.<sup>16</sup> Also, there is no study that thoroughly examines overuse of medical services. So, the identification of overuse in medical services helps patients, practitioners, researchers, administrators and decision-makers of the healthcare system to manage costs, disadvantages and benefits of services and ultimately balance the use of services.

The objectives are to (1) systematically review and identify literature on the overuse of medical services, (2) identify the areas in which the overuse of medical services will take place and (3) determine the rate of overuse of medical services in the Iranian healthcare system.

## METHODS

### Study method

We will conduct a systematic review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA).<sup>17</sup> We used the PRISMA because its use would reduce the risk of flawed reporting and increase the transparency and clarity of the systematic review reports.<sup>17</sup>

The review protocol was registered in PROSPERO (registration no. CRD42017075481; [http://www.crd.york.ac.uk/PROSPERO/display\\_record.php?ID=CRD42017075481](http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42017075481)).

### Eligibility criteria

All published studies that investigated the overuse of medical services will be included in the study. The included studies will not be limited based on study type. Our definition of overuse will be based on Saini *et al* in the recent Right Care Lancet series ('Provision of a service that is unlikely to increase the quality or quantity of life, that poses more harm than benefit, or that patients who were fully informed of its potential benefits and harms would not have wanted').<sup>13 12</sup> Only studies will be included that have addressed overuse in the Iranian healthcare system. Studies will be limited in English and Farsi languages. Articles will be excluded if the researchers do not have access to the full text.

### Search strategy and data sources

An extensive search of the literature will be conducted in six databases including PubMed, Embase, Scopus, Web of Science, Cochrane and Scientific Information Database (SID) using a comprehensive search strategy to identify studies on overuse of medical services without time limit until the end of 2017, completed by reference tracking, author tracking and expert consultation. SID is a database that categorised Iranian research–scientific journals in scientific groups and initiated its mission in August 2004 (<http://www.sid.ir/En/Journal/>). We use a combination of Medical Subject Headings (MeSH) terms and free term to maximise the sensitivity of the search. The search will be done on 1 February 2018.

Proposed search strategy (PubMed);

1. Medical overuse<sub>[MeSH Term]</sub>
2. Overuse ti,ab.
3. Overmedicalization ti,ab.
4. Overtreatment\* ti,ab.
5. Overdiagnosis\* ti,ab.
6. Inappropriate care ti,ab.
7. Unnecessary ti,ab.
8. Overutilization ti,ab.

9. Medicalization\* ti,ab.
10. Overmedication ti,ab.
11. Misdiagnosis ti,ab.
12. 'Unwanted care' ti,ab.
13. Polypharmacy ti,ab.
14. 'Inappropriate medication' ti,ab.
15. Overprescription ti,ab.
16. Value-based care ti,ab.
17. Right care ti,ab.
18. Delivery of Healthcare<sub>[MeSH Term]</sub>
19. Health services<sub>[MeSH Term]</sub>
20. Medical services
21. Iran
22. 1 Or 2 Or 3 Or 4 Or 5 Or 6 Or 7 Or 8 Or 9 Or 10 Or 11 Or 12 Or 13 Or 14 Or 15 Or 16 OR 17
23. 18 OR 19 OR 20
24. 21 AND 22 AND 23

### Study selection process and data extraction

After completing the search, the retrieved records will be imported into the EndNote software (V.X8), and then the duplicate records will be deleted. Two independent reviewers will screen the articles based on the title, abstract and full text, and extract data about authors, publication year, type of study, study population, type of service, clinical area, and overuse rate or range. All disagreements in each level of study will be noted and resolved by consensus with a third researcher.<sup>18</sup>

### Quality appraisal

Poor-quality studies can distort and affect the quality of the results.<sup>19</sup> Due to the possible wide range of included studies, we will use the Joanna Briggs Institute (JBI) checklists according to the type of included studies.<sup>20</sup> The JBI is an international institution aimed at enhancing evidence-based healthcare by providing access to health-related resources. The JBI critical appraisal checklists are developed and approved by JBI scientific committee. These tools are designed for various types of studies and are available online (<http://joannabriggs.org/research/critical-appraisal-tools.html>). Two researchers will independently appraise the quality of included studies. All potential discrepancies will be resolved through consultation with the third researcher. The risk of bias assessment will be performed based on the Cochrane Risk of Bias Tool. For this purpose, items such as the selection bias, performance bias, detection bias, attrition bias and reporting bias will be checked.<sup>21</sup>

### Patient and public involvement

Given that the design of the study is systematic review, the patients and/or public are not involved in it.

### Data synthesis

We will categorise the results of the included studies based on publication year, clinical area, type of service (diagnostic tests, therapeutic procedures and medications), and range or rate of overuse. If the studies are homogeneous, meta-analysis will be done using quantitative data

from individual studies. We will pool the data of overuse rate based on type of services. Otherwise, we use narrative method for reporting the results based on type of services and clinical areas (overuse of medication, therapeutic procedure and screening test). Also, we will report the services that have the largest number of overuse.

## ETHICS AND DISSEMINATION

Like the rest of the world, there is little evidence about overuse of medical services in the Iranian healthcare system.<sup>22</sup> Reducing the overuse of medical services require extensive studies at the national and regional levels. We are hopeful that this systematic review will provide useful results in identifying overuse of medical services in the Iranian healthcare system. We are hopeful that the result of this systematic review will make robust and valuable evidence for informed policy making. However, we note that we are still at the beginning of a long journey, and the need to conduct studies in this field is felt more than ever.

**Contributors** MA-Z and MZP initiated and conceived the study. AJ and RK-Z participated in study design. MA-Z drafted the research protocol. MZP, AJ and RK-Z critically revised the content of the written protocol. All authors approved the final version of this protocol.

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**Competing interests** None declared.

**Patient consent** Not required.

**Ethics approval** This study was approved by Tabriz University of Medical Sciences (ethical confirmation number; IR.TBZMED.REC.1396.908).

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Author note** This systematic review will form part of MA-Z's PhD dissertation, supervised by AJ, MZP and RK-Z.

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