

The Italian Society of Internal Medicine choosing wisely campaign

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Received: 16 August 2016 / Accepted: 20 October 2016 / Published online: 1 November 2016
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Abstract Appropriateness is one of the critical aspects of medicine. For this reason, the Italian Society of Internal Medicine (SIMI) decided to adhere to the Choosing Wisely Campaign. A bottom-up approach was chosen. All the recommendations published in the US and Canadian Choosing Wisely campaign have been screened, and an e-mail was sent to all the SIMI members for new suggestions. The thirty interventions that were judged as the highest priority by a committee were sent to all the SIMI members for voting. The first procedures selected were then revised, and constituted the five points of the SIMI choosing wisely campaign. The identified procedures were: (1) avoid prescribing bed rest unless an acceptable indication exists. Promote early mobilization; (2) Do not perform a D-dimer test without a precise indication; (3) Do not prescribe long term intravenous

antibiotic therapy in the absence of symptoms; (4) Do not indefinitely prescribe proton pump inhibitors in the absence of specific indications; (5) Do not place, or leave in place, peripherally inserted central catheters for patient's or provider's convenience. Four of these points were not present in any other campaign, while one, the fifth, was already present. The bottom-up approach of the SIMI "Choosing Wisely" campaign favored the identification of different priorities compared to other campaigns. Future studies should now evaluate if the application of these "not-to-do" recommendations will be associated with an improvement of clinical outcome and a subsequent direct and indirect health care cost reduction.

Keywords Appropriateness · Choosing wisely · Less is more · Health system

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Introduction

In the last decade, Richard Smith, editor of British Medical Journal, started a column titled "Less is more," a sentence borrowed from the architect Ludwig Mies van De Rohe, referring to the risk of excessive use of diagnostic investigations/interventions, sometimes due to patients' or doctors' decisions, sometimes to technological processes. Ten years later, the huge amount of data on the problem of *overtreatment* and *overdiagnosis*, has led the BMJ to start a campaign called "Too-much-medicine." This campaign aimed to recall the attention of health care personnel and of public opinion on health-related issues due to overdiagnosis, and on the waste of economical resources due to unnecessary cares [1].

However, the most revolutionary initiative has been the campaign by the ABIM Foundation called "Choosing Wisely" [2]. In 2012, ABIM invited the American societies

of specialty medicine to play the role of “administrators of limited health resources” to develop the lists titled “Five Things Physicians and Patients Should Question,” to discuss wasteful or unnecessary medical tests, treatments and procedures within each specialty. From the initial five, there are currently 75 specialty societies that have been already joined and published their Top Five list.

This campaign has been having an enormous success among physicians, because it is based on the priority of each patient’s needs without any interference within the physician-patient relationship. The Choosing Wisely campaign centers around the conversations between healthcare providers and patients informed by the evidence-based recommendations of “Things Providers and Patients Should Question.” Consumer Reports is a partner in this effort, and works with specialty societies to create patient-friendly materials to educate patients about what care is best for them, and the right questions to ask their physicians. The aim of the campaign is to promote the discussion between physicians and patients, helping patients to choose a prudent care: (1) supported by evidence, (2) not a repetition of other tests or procedures already done, (3) without collateral effects, and (4) a workup that is really necessary. The secondary expected result from this campaign is to involve physicians in the most appropriate use of economical resources to communicate to public opinion that sometimes “less is better,” and to reduce the use of tests and treatments when there is no real need [3].

The choosing wisely project of Italian Society of Internal Medicine

Talking about appropriateness and giving indications to reduce use of inappropriate intervention with physicians can be very difficult. It is well known that the political instances and strict rules for the use of drugs and devices cause resistance and opposition from physicians all around the world [4, 5]. The Italian Society of Internal Medicine (SIMI) supports the concept that instead of obliging clinicians within restrictive regulatory measures on prescriptions, using a top-down approach (that is imposed from regulatory national offices), a key role in selecting what should not be prescribed because of lacking of evidence on benefits, should be played by physicians together with stakeholders interested in the improvement of quality and efficacy of health care [4, 5].

For this reason, at difference from other societies’ campaigns in which the choice of which procedures should be avoided was done directly by a small group of experts within that society (www.choosingwisely.org), the peculiarity of the SIMI campaign is that it is based on a bottom-up methodology shared with most of the society members.

The aim of the present manuscript is to report the five points of the Italian Society of Internal Medicine Choosing Wisely Campaign, together with the bottom-up methodology used to obtain them.

Methods

In October 2014, all the recommendations published in the US and Canadian Choosing Wisely Campaign [6, 7] have been screened to retrieve all of those that were relevant for internal medicine.

First of all, an e-mail was sent to all the members of the SIMI asking for any item to be proposed for the Society Choosing Wisely campaign’s selection. An item could be related to a diagnostic procedure, a management strategy, or a treatment.

As a second step, all recommendations proposed by members, plus those already present in the US and Canadian campaigns, were sent to a study group composed of nine expert members in methodology or internal medicine, selected by the Italian Society of Internal Medicine Board. They were requested to evaluate the priority of each item, giving a score from 1 to 10 (1 = lowest priority, 10 = maximum priority).

The thirty items that received the highest score were then e-mailed to all the Society members, by means of an online questionnaire (www.surveymonkey.com). All delegates were asked to evaluate the priority of each point, using a score ranging from 1 to 10 (1 = lowest priority, 10 = maximum priority). As to the attribution of priority, they could express their judgment intuitively, without request for justifications.

At this point, the working group revised the evidence behind the five recommendations that received the highest score. Namely, if the revision confirmed the absence of evidence or the presence of evidence against that recommendation, that item was definitely selected as a recommendation for the Campaign. Thus, the Top Five list of the Italian Society of Internal Medicine’s Choosing Wisely Campaign was finally identified.

Results

From the US and Canadian Choosing Wisely Campaign 139 items were identified. Ninety points were suggested by the SIMI members. Thirty out of these 229 procedures were selected by the Choosing Wisely experts committee. Twenty two of these had already been published in the US or Canadian Choosing Wisely Campaign, while eight items had been originally proposed by SIMI delegates.

The online survey was sent to 2306 SIMI delegates. Four hundred nine (0.18; CI 95% 0.16–0.19) answered the survey.

As to the final Top-5 list, four of the selected points were those originally proposed by the delegates, while only one, the last in priority, was already present in previous campaigns.

Table 1 shows the ranking of the five selected items. The first five in order of priority were: (1) avoid prescribing bed rest unless an acceptable indication exists. Promote early mobilization; (2) Do not perform a D-dimer test without a precise indication; (3) Do not prescribe long term intravenous antibiotic therapy in the absence of symptoms; (4) Do not indefinitely prescribe proton pump inhibitors in the absence of specific indications; (5) Do not place, or leave in place, peripherally inserted central catheters for patient's or provider's convenience.

Discussion

Avoid prescribing bed rest unless an acceptable indication exists. Promote early mobilization

Being admitted to hospital is a risk factor for immobilization and bed rest. Brown et al. observe that hospitalized medical patients, on average, spend 83% of the hospital stay lying in bed [8]. Some studies show that a few hours of bed rest can provoke dramatic pathophysiologic consequences such as impairment of baroreflex response and orthostatic hypotension [9, 10]. Recently, some authors suggest that hospitalization itself could be considered as a disease per se, and that bed rest is one of the main causes of this syndrome [11, 12].

Early mobilization provides several psycho-physical benefits including pain relief, reduction in deep vein thrombosis, fatigue, delirium, urinary tract infection, anxiety and depressive mood [13]. Inpatient mobilization is also found to positively affect the quality of life, as well as the hospital length of stay, and thus the health cost [13].

For these reasons, evidence supports the use of early mobilization in several acute conditions, such as acute myocardial infarction, venous thromboembolism, stroke, heart failure, surgery and intensive care unit admission [14–17].

Allen and co-workers addressed the effect of bed rest confinement related to some specific conditions (acute low back pain, labor, proteinuric hypertension during pregnancy, myocardial infarction, and acute infectious hepatitis): no outcomes improve significantly while nine worsen [18].

In conclusion, available data do not support any clinical advantage of bed rest compared to early mobilization. Moreover, it is well known that bed rest can be associated with the development of the “bedridden syndrome” that has been proved to be associated with adverse outcomes. *Statement for the physician* Ask yourself why your patient is confined to bed, and discuss with your patient why an early mobilization can be useful.

Do not perform a D-dimer test without a precise indication

A D-dimer determination can be useful in many conditions, such as venous thromboembolism (VTE), disseminated intravascular coagulation, or thrombosis in aortic dissection. Regarding VTE, the D-dimer level is considered crucial in its diagnostic pathway. D-dimer levels should be used in out-patients at low-intermediate VTE probability, and its negative value avoids the need of computed tomography (CT) scan [19]. Unfortunately, sometimes the suspicion of a VTE in a patient does not originate from clinical signs and symptoms, but from a positive value of a D-dimer test requested without a precise indication. Indeed, in this case, the execution of the D-dimer testing can increase and not decrease CT requests, in particular for low pre-test VTE probability patients, leading to the well known adverse effects of radiation, and possibly, overdiagnosis.

In conclusion, a D-dimer level should be requested only for a definitive clinical suspicion.

Table 1 The five selected procedures of the SIMI Choosing Wisely campaign and their ranking

Ranking	Procedure	Score
1	Avoid prescribing bed rest unless an acceptable indication exists. Promote early mobilization	9.02
2	Do not perform D-dimer test without a definite indication	8.65
3	Do not prescribe long term intravenous antibiotic therapy in the absence of symptoms	8.56
4	Do not prescribe indefinitely proton pump inhibitors in the absence of specific indications	8.48
5	Do not place, or leave in place, peripherally inserted central catheters for patient or provider convenience	8.44

Statement for the physician Ask yourself if your patient will benefit or might be harmed by D-dimer testing.

Do not prescribe long term intravenous antibiotic therapy in the absence of symptoms

Roughly half of the patients admitted to hospital receive an antibiotic treatment for a suspected or evident infection [20, 21]. However, Magill et al. report that a quarter of them receive antibiotics for prophylaxis or for reasons not clinically documented [21].

The main problems in antibiotic therapy are inappropriate prescription, route of administration and duration of treatment. While many scientific societies recommend appropriate prescription following the available evidence, and switching from i.v. to oral therapy when appropriate, data are lacking concerning the correct duration of the therapy [22]. Some data regarding respiratory infections suggest that a short cycle (7–8 days) of antibiotic therapy for healthcare associated pneumonia is comparable to a longer one (10–14 days), except for non-fermenting Gram-negative bacilli, such as *Pseudomonas*, *Acinetobacter* and *Stenotrophomonas* [23]. The same is true for community acquired pneumonia (CAP) in which a 3 days intravenous cycle of antibiotics have been proven to be not worse than an 8 day course in mild-moderate severe CAP [24].

Havey et al. performed a systematic review to compare short versus long duration of antibiotic therapy for different infections, and they find no differences in prognosis [25].

Antibiotics are associated with several adverse events. Besides the well known specific drug-related effects, such as dysrhythmia for quinolones and macrolides, or allergy for penicillins, another relevant side effect is the risk of *Clostridium difficile* infection and other superinfection. Prolonged antibiotic use has been associated with longer hospital stay, increased emergence of resistant strains, and increased health care costs [20].

Apart from some known indications for prolonged antibiotics use, such as endocarditis or osteomyelitis, there is no conclusive data on the duration of antibiotic therapy in any kind of infection or patient.

The report of the threefold difference in usage rates among 26 medical/surgical wards is suggestive that much can still be done to increase the appropriateness of antibiotics prescriptions [20].

In conclusion, prophylactic antibiotic therapy, except for rare indications, should be avoided. Antibiotics should be switched to the oral route at the earliest opportunity, and prolonged therapy should be limited to specific diseases.

Statement for the physician Ask yourself what is the optimal duration of the current antibiotic therapy in your patient?

Do not indefinitely prescribe proton pump inhibitors in the absence of specific indications

Stress ulcer prophylaxis during in-hospital stay is common: around 71% of patients admitted to the hospital receive some form of prophylaxis without appropriate indication [26]. Even if prophylaxis with proton pump inhibitors (PPI) could theoretically decrease the risk of bleeding, the number needed to treat to decrease one bleeding is disproportionately high [27]. Apart from the specific indication of PPI use during hospitalization, many patients are discharged still on PPI therapy even if this treatment is not appropriate [27]. Many variables can be associated with an increased PPI prescription such as old age, male gender, duration of hospital stay, comorbidities and admission to some specialties [28]. Some of the reasons for routine stress ulcer prophylaxis in non-ICU wards are the perception that PPIs are harmless [29]. However, many systematic reviews find that PPI therapy can be linked to significant osteoporosis (Relative Risk 1.26), increased risk of pneumonia (relative Risk 1.49), and spontaneous bacterial peritonitis (Odds Ratio 2.11), as well as to premalignant gastric lesions [30–33]. Heidelbaugh et al. calculate that the annual cost of patients evaluated during four months in a single university hospital for PPI, the cost of an inappropriate prescription is more than \$ 100,000.00 [34]. Despite this evidence, the published RCTs on this topic are few, and the guidelines are not updated.

In conclusion there is no evidence on clinical benefit over long term PPI use, while on the contrary, there is strong evidence that overuse of PPI causes relevant adverse events and economic costs.

Statement for the physician Ask yourself if the long term PPI you are prescribing is really indicated, and discuss with your patient the pro and cons of this therapy.

Do not place, or leave in place, peripherally inserted central catheters for patient's or provider's convenience

Considering the increasing rate of hospitalization, the aging of patients and the consequent increased need for intravenous therapies, obtaining a reliable peripheral venous access is becoming more difficult. For this reason, central venous catheter (CVC) and peripherally inserted central

catheters (PICCs) use have become more common. PICCs are CVCs peripherally inserted, but terminating in the central veins of the chest. Their placement is much easier than a normal CVC, and can be also performed by trained nurses. According to the retrospective study by Chopra et al. [35], the most common indications for PICCs insertion include: long term antibiotic administration (52%), venous access (21%), total parenteral nutrition (16%), and delivery of chemotherapy (11%).

PICCs, as well as every CVCs, have two most worrisome complications that include infections and thrombosis.

Two recent systematic reviews suggest that the risk of thrombosis with PICCs is greater than that with CVCs, in particular in cancer patients [36, 37]. The absolute risk of thrombosis has been calculated as high as 2.7% greater than that of CVCs. The absolute risk of bloodstream infections is around 6%, with a median time for infection of 10 days [35, 38]. Most infections are caused by coagulase-negative staphylococci, *Staphylococcus aureus*, and *Candida* species. Major risk factor for infection is the placement of PICC primarily for venous access and total parenteral nutrition [36].

For all these reasons, CVCs and PICCs should be seldom used. Before placing a CVC, an attempt should be made to cannulate a peripheral vein using an ultrasound guided approach. In patients for whom the need for a central catheter would be less than 14 days, a CVC should be preferred, while for those in which longer duration is needed a PICC or Port-a-cath should be considered. It is important that all CVCs should be promptly removed when acceptable indications for their use end [39].

In conclusion, any insertion of CVCs and PICCs can be aggravated by severe complication such as infections and thrombosis.

Statement for the physician Ask yourself if your patient really needs a central catheter when you have failed trying to have a ultrasound guided peripheral access. Discuss with your patient and nurse the importance of prompt removal as soon as acceptable indications for their use end.

The Italian Society of Internal Medicine developed its own Choosing Wisely Campaign. Four of the five selected recommendations of the SIMI campaign were not present in previous campaigns. At difference from other Societies, SIMI adopted a bottom-up strategy to find its five items. This decision was based on the idea that to make the recommendations acceptable in practice, the SIMI members should have participated in the process of selection. This was the reason why the role of the organizing committee was limited to screen the thirty major recommendations to be subsequently voted by all the members. About 20% of the SIMI members answered the survey. Of course, this is

not the majority of them, but is a good percentage compared to usual surveys.

The SIMI Campaign has just started, and we hope that our methodology will help clinicians to participate in the campaign. Future build-in studies will evaluate whether the campaign will be followed by physicians, and whether following the recommendations will lead to better outcomes for the patients and to a reduction of the waste in the health care system.

In conclusion, we think that the methodology we used to find consensus is the main reason for which the recommendations of our campaign are so different from those already published in other campaigns of internal medicine societies. However, although we think that this methodology has some strength, we cannot be completely confident that the Top Five list will be then applied, and change clinical practice. We believe that this campaign may be at least an useful tool to sensitize internists to a different way of thinking about professionalism and appropriateness.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Statement of human and animal rights This article does not contain any studies with human participants or animals performed by any of the authors.

Informed consent None

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