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Comparative Content Analysis of Turkish Public and Private  
Sector's Health Communication Campaigns**

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**ABSTRACT**

Irrational use of medicines is a global and multi-causal public health issue. This paper aims to examine how the rational use of medicines (RUM) has been promoted to persuade publics in Turkish public and private sector's health communication campaigns. To this end, a comparative content analysis of various messages designed by Turkish national health agencies (Turkish Ministry of Health, Turkish Ministry and Labour and Social Security), hospitals, and pharmaceutical companies has been conducted. This study revealed that, loss frame and individual responsibility are mainly applied by these parties in framing their messages, wherein consumers are the key audience. Nevertheless, a wider range of audiences and stakeholders have also been targeted by the government agencies. On the other hand, this paper also discusses public vs. private interest served on these messages according to the campaign rationales, and also attributed responsibility of the irrational use of medicine.

**Keywords:** rational use of medicines, health communication, framing, responsibility, advertisement.

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## **Introduction**

The most important characteristic that distinguishes a medicine from other products is that it might save lives, but it might also implicate the possibility of causing harm due to side-effects, adverse effects and interaction. The concept of 'rational or responsible use of medicine' first and foremost relied on the product's distinctive feature. On one hand, medicines have a vital role in reducing mortality and morbidity rates and also in contributing to improve quality of life. On the other hand, underuse, overuse or misuse of medicines causes negative effects on health. Therefore, the use of medicine refers some responsibilities to various stakeholders in the long chain process which consists of manufacturing, marketing, diagnosis, prescribing, dispensing, storage, and consuming of the product (patient adherence). In the long process of 'rational use of medicine' (RUM); consumers/patients (and relatives) are the very last link of this extended chain yet, the only potential victim of the negative consequences of irrational use. Governments, health practitioners, pharmacists, pharmaceutical industry, NGOs advocating consumer/patient's rights, and health care institutions are other crucial links which are involved in the RUM process. In addition to individual health risks that might arise, irrational use of medicines (IUM) may also cause substantial economic loss for countries.

In 1985, IUM has been introduced as a public health issue into the World Health Organization (WHO) agenda, and RUM has been encouraged at national country levels thenceforward. In order to attend RUM goals; action plans consisting of policy change, education, training, monitoring, evaluation, and promotion strategies are being conducted by developing countries. Integral to promotional strategies, health communication campaigns intending behavioural change in audiences are being extensively used.

This paper aims to analyse how RUM has been promoted to persuade audiences in Turkish public and private sectors' health communication campaigns. Message frames will be identified in order to reveal which persuasive appeals and responsibility assignments are being implemented. In the first instance, background information on IUM on a global and national level will be presented in order to reveal the significance of this public health issue. Since worldwide health expenditure spent on medicines is a crucial indicator on RUM; a secondary data on global and national pharmaceutical consumption and medicine expenditure will be presented. Secondly, RUM efforts on global and national scale will be discussed. Subsequently, literature on message framing theory will be reviewed. Finally, selected health communication campaign messages on RUM by various stakeholders will be comparatively content analysed.

## **Background Information on IUM**

Pharmaceutical prescribing, dispensing, selling, storing, and consuming practices can be used as indicators in dealing with IUM. According to the WHO, "more than 50% of all medicines worldwide are prescribed, dispensed,

or sold inappropriately and 50% of patients fail to take them correctly”.<sup>1</sup> Consequently, IUM is an important global challenge.

The percentage of high medicines expenditure in overall health spending is a serious challenge in developing countries. “In developing countries today medicines account for 25–70% of overall healthcare expenditure, compared to less than 10% in most high-income countries”.<sup>2</sup> Turkish government has predicted that 6.85 billion USD (24 billion TL.) will be spent on medicines in an overall health expenditure of 31.7 billion USD (111 billion TL.) for 2017.<sup>3</sup> Therefore, %21 of health expenditure would be spending on medicines which are slightly below the average of medicine expenditure in developing countries according to the WHO data.

Pharmaceutical industry is the most profitable industry in the world. In 2015, the revenue of the worldwide pharmaceutical market was 1.072 trillion USD.<sup>4</sup> Turkey is the 6<sup>th</sup> largest European market, and 17<sup>th</sup> in the world with 6.31 billion USD.<sup>5</sup>

According to the Turkish Medicines and Medical Devices Agency (TMMDA) of the Ministry of Health, 2112.94 million boxes have been consumed in 2015 with a %14.77 of rise comparing to the previous year. Overall, medicine consumption in Turkey indicates steady rise since 2010.<sup>6</sup> Figure1 depicts top 10 largest therapy areas in Turkish pharmaceutical market in 2012-2016. According to the bubble chart, pain is the largest therapy area with 470 million USD (1.646 million TL) with 21% year over year growth rate, following by antibacterials with 410 million USD (1.435 million TL), and antidiabetics with 405 million USD (1.419 million TL).<sup>7</sup> Therefore, pain relief medications, antibiotics and anti-diabetics are at the first three ranks in medicine consumption in Turkey.

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<sup>1</sup> World Health Organization (WHO), The pursuit of responsible use of medicines: sharing and learning from country experiences-Technical report prepared for the Ministers Summit, 2012, Geneva, Switzerland, p.1.

<sup>2</sup> WHO, Health Action International: Measuring Medicine Prices, Availability, Affordability and Price Components, 2<sup>nd</sup> ed., World Health Organization: Geneva, Switzerland, 2008, p.1.

<sup>3</sup> Zeynep Akyıl and İbrahim Yılmaz, “Devletin ilaca harcadığı para 24 milyar lirayı bulacak”, Anatolian News Agency, 14 November 2016.

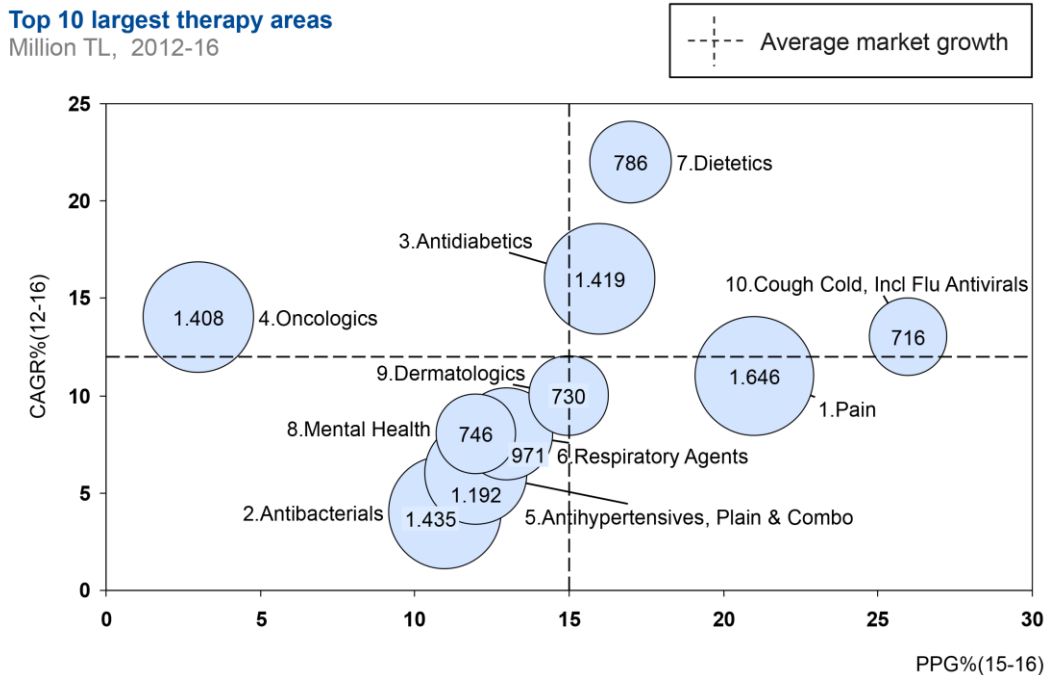
<sup>4</sup> Statista, Revenue of the worldwide pharmaceutical market from 2001 to 2015, <https://www.statista.com/statistics/263102/pharmaceutical-market-worldwide-revenue-since-2001/> (11.01.2017).

<sup>5</sup> CPhl Pharma Insights, Turkey Pharmaceutical Market Report 2016, in collaboration with QuintilesIMS, p.4.

<sup>6</sup> Health Statistics Annals 2015, Medicine Consumption over the Years, General Directorate of Health Researches, [http://www.saglikistatistikleri.gov.tr/dosyalar/SIY\\_2015.pdf](http://www.saglikistatistikleri.gov.tr/dosyalar/SIY_2015.pdf) (21.02.2017).

<sup>7</sup> CPhl Pharma Insights, op.cit., p.13.

**Figure 1. Top 10 Largest Therapy Areas**



Irrational use of antibiotics is being mainly targeted by the WHO and national governments in developed and developing countries, since antimicrobial resistance is a serious global challenge. The WHO indicates that antimicrobial resistance (AMR) causes untreatable diseases, prolonged illness, disability and death.<sup>8</sup> The misuse of antibiotics includes the inappropriate prescribing of antibiotics, their overuse in the livestock sector, and insufficient hygiene practices in hospital, all contribute to the rise of AMR. Global trade and travel are also accelerating the spread. AMR poses a significant burden on healthcare systems and national budgets.<sup>9</sup>

Turkey's defined daily dose (DDD) of antibiotics per 1000 habitants per year is 41.4 in 2014, which is one of the highest rates amongst OECD countries. Antimicrobial Resistance (AMR) prevalence is 40% in Turkey in 2014, which is 35% higher than OECD average and at the second rank after Greece with 45% of prevalence.<sup>10</sup> Antibiotics should be prescribed only where there is an evidence-based need to reduce the risk of antimicrobial resistance.

<sup>8</sup> WHO, Antimicrobial Resistance, Fact Sheet, September 2016, <http://www.who.int/mediacentre/factsheets/fs194/en/> (11.01.2017).

<sup>9</sup> Organisation for Economic Co-operation and Development (OECD), Antimicrobial resistance: policy insights, 2016, <https://www.oecd.org/els/health-systems/antimicrobial-resistance.htm> (13.01.2017), p.1.

<sup>10</sup> Ibid, p.3,4.

*IUM as a Global and Multi-Causal Public Health Issue*

Alexandrian physician Herophilus (335-280 BC) had depicted medicines as ‘the hands of Gods’. On the other hand, these ‘divine hands’ require a human agent in order to be efficacious. Therefore, according to Herophilus drugs are nothing *per se*, if they are not employed correctly by human. Almost five century later, Roman physician Galen (129-199 AD) has approved Herophilus’ statements.<sup>11</sup> Therefore, RUM is not a contemporary concept and dates back to Ancient Greek. However, RUM has become a public health issue in the late 20<sup>th</sup> century, and the first official step in dealing with RUM was taken in 1977 by the establishment of the “1<sup>st</sup> Model List of Essential Medicines”.<sup>12</sup> In 1984, following the request of the World Health Assembly, “The Conference of Experts on the Rational Use of Drugs” was held in Nairobi, Kenya, in 1985. The conference aimed at ensuring the rational use of drugs especially in developing countries. The requirements for RDU has been identified for the first time in the report of this conference as following: “Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community”.<sup>13</sup>

Major issues concerning RUM have been identified in the Nairobi conference in 1985. The implementation of a national drug policy as an integral part of national health policy has been addressed. An appropriate drug information system for prescribers, patients and policy makers, the quality of the information on drugs, the ultimate responsibility of governments in disseminating these messages, and computerised drug information systems have been recommended. Furthermore, the importance of national drug regulatory system and its reinforcement in developing countries have also been underlined. Reducing costs, local production, research to improve new drugs have been identified as important problems about RUM. On the other hand, the need for flexibility on the right to prescribe, distribute and sell drugs depending on the availability of manpower, and the importance of improving prescription practices have been discussed in the conference. Appropriate information is one of the criteria for rational prescribing promoted by the WHO. This criterion consists that patients should be provided with relevant, accurate, important and clear information regarding his/her conditions and medication(s) that are prescribed.<sup>14</sup> Rational consumption has been cited as an essential partner of rational prescribing. Therefore, education of the consumers with respect to their individual drugs, but their education in health care in general has been recommended. Furthermore, negative influence of the mass media has been mentioned and holding dialogue and seminars with them has

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<sup>11</sup> Heinrich von Staten, *The Art of Medicine in Early Alexandria: Edition, Translation and Essays*. Cambridge, Cambridge University Press, 1989, p.400.

<sup>12</sup> WHO, Policy Perspectives on Medicines, Geneva, Switzerland, September 2002, p.2.

<sup>13</sup> WHO, The Rational Use of Drug: Report of The Conference on Experts- 25-29 November 1985, Nairobi, Kenya, Geneva, <http://apps.who.int/medicinedocs/documents/s17054e/s17054e.pdf>, 1987, p.299, (13.01.2017).

<sup>14</sup> *Ibid.*, p.305.

been requested in order to improve the situation. On ensuring compliance on the application of ethical criteria on drug promotion; pharmaceutical industry and governments have been mentioned as responsible in complying. The roles of health professionals, individuals or consumer groups in resisting unethical promotion have also been referred. Adequate education and training of health professionals have been identified as a prerequisite of RUM. Respective responsibilities of governments, the pharmaceutical industry, prescribers, universities and other teaching institutions and professional nongovernmental organizations, the public, patients and consumer groups, the mass media, and the WHO in making medicine use more rational have been underlined.<sup>15</sup>

In 2000, The World Bank has published Pharmaceutical Discussion paper which outlines strategic directions to close the gap between the advantageous and disadvantageous people in terms of pharmaceutical benefit.<sup>16</sup> The use of scientific data and countries' financial capacity has been underlined in The World Bank description of RUM.<sup>17</sup>

IUM is a global and multi-causal public health issue. IUM causes decreased patient adherence to treatment, drug interactions, resistance to some drugs, raised incidence of adverse drug reactions and also treatment cost.<sup>18</sup> Various reasons leading to IUM are derived from the lack of education to socio-cultural, economical, managerial and regulatory mechanisms.<sup>19</sup> The WHO has identified common types of IUM<sup>20</sup>, and we assigned 'responsible parts' for each type:

- The use of too many medicines per patient/polypharmacy: doctors (prescribers), patients, and pharmacists (dispensers).
- Inappropriate use of antimicrobials, often in inadequate dosage, for non-bacterial infections: doctors (prescribers), patients.
- Over-use of injections when oral formulations would be more appropriate: doctors (prescribers).
- Failure to prescribe in accordance with clinical guidelines: doctors (prescribers).
- Inappropriate self-medication, often of prescription only medicines: patients, pharmacists (dispensers).

The WHO have also cited the lack of knowledge (and information), skills or independent information, unrestricted availability of medicines, overwork of

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<sup>15</sup> Ibid., p.26.

<sup>16</sup> Ramesh Govindaraj, Michael R. Reich and Jillian C. Cohen, World Bank Pharmaceuticals. HNP discussion paper series, World Bank, Washington, DC., <https://openknowledge.worldbank.org/handle/10986/13734> (13.02.2017).

<sup>17</sup> Richard Ofori-Asenso and Akosuo Adom Agyeman, Irrational Use of Medicines: A Summary of Key Concepts, Pharmacy, 2016, p.2.

<sup>18</sup> Turkish Medicines and Medical Devices Agency (TMMDA), Why Rational Use of Medicine? [http://www.akilciilac.gov.tr/?page\\_id=3150&lang=en](http://www.akilciilac.gov.tr/?page_id=3150&lang=en), (11.01.2017).

<sup>19</sup> Ahmet Akıcı *et.al.* "Pratisyen Hekimlerin Akılcı İlaç Kullanımı Konusunda Bilgi ve Tutumlarının Değerlendirilmesi", *Sürekli Tıp Eğitimi Dergisi (STED)*, 11(7), 2002, p.253.

<sup>20</sup> WHO, 2002, p.1.

health personnel, inappropriate promotion of medicines and profit motives from selling medicines as the reasons of IUM which should be monitored.<sup>21</sup> Furthermore, “faulty and inadequate training and education of medical graduates, poor communication between health professional and patient, lack of diagnostic facilities, demand from patients, defective drug supply system and ineffective drug regulation, and promotional activities of pharmaceutical industries” are also the reasons for irrational use of medicines.<sup>22</sup> Most importantly, these reasons frequently interact and therefore this multi-causal issue becomes more complex to deal with.<sup>23</sup>

In 2012, instead of the concept of RDU, ‘responsible use of medicines’ was preferred in a technical report titled “The Pursuit of Responsible Use of Medicines: Sharing and Learning from Country Experiences”. In this report, the rational and irrational use of medicines have been defined as following: “Medicine use is rational (appropriate, proper, correct’) when patients receive the appropriate medicines, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost both to them and the community. Irrational (inappropriate, improper, incorrect) use of medicines is when one or more of these conditions are not met.” On the other hand, ‘responsible use of medicine’ has also been described in this report as “the activities, capabilities and existing resources of health system stakeholders are aligned to ensure patients receive the right medicines at the right time, use them appropriately, and benefit from them”. It has also been indicated that the responsible use of medicines is complementing the RUM and not intend to substitute the WHO definition of RUM.<sup>24</sup> The emphasis on ‘responsibility’ refers to an attribution of responsibility of various stakeholders to deal with the global issue of irrational use of medicines.

RUM is as a process which involves a start with a careful definition of the diagnosis, targeting identification of the treatment, selecting a reliable treatment with proven efficacy amongst various options. This process is a systematic approach which continues with an appropriate prescription, starting the treatment with clear information and recommendations to the patient, monitoring of the consequences of the treatment and its assessment.<sup>25</sup>

Turkey is a developing country with high medicine expenditure as it has been cited earlier. Furthermore, IUM is an important issue which threatens public health and also brings substantial economic burden. For instance, a research has been conducted to evaluate the compliance of the prescriptions in the ‘Medula Pharmacy System’ of Social Security Institution (SSI) of Turkey with regard to drug utilization indicators that examines principles of RUM in 2013. The research revealed that for 6.206.970 prescriptions recorded and controlled during the five working days in February 2013, in which 15.139.431 units were prescribed. Average cost per prescription has been indicated as 39.23 TL (10.3 Euro). The

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<sup>21</sup> Loc.cit.

<sup>22</sup> Sneha Ambwani and A. K. Matur, “Rational Drug Use”, Health Administrator, 19(1), 2006, pp.5-6.

<sup>23</sup> Akıcı *et.al.*, 2002, p.253.

<sup>24</sup> WHO, 2012, pp.1-2.

<sup>25</sup> Akıcı *et.al.*, 2002, p. 253.



study indicated a relatively high prescription of amoxicillin-enzyme inhibitor (penicillin) and cold preparations which have been identified as a result of “infection-focusing treatment oversupply” by the researchers.<sup>26</sup> On the other hand, a survey which aimed to investigate whether patients were as informed about their diagnosis and medication and their knowledge about the RUD in general, has been conducted with 260 patients being treated in a Turkish public hospital. The research revealed that the high rates related to patients demanding prescriptions from physicians at every consultation, the insufficient time allotted per patient, and the information given to the patient did not fully meet with RUM criteria.<sup>27</sup>

### **An Overview of Health Message Framing as a Focus in Health Communication**

The lack of information of stakeholders, poor communication between health professionals and patients, inappropriate demand from patients/relatives, and promotional activities of pharmaceutical industries are IUM’s main communication-related reasons. On the other hand, the promotion of RUM involves policies, structures, information and education.<sup>28</sup> Accordingly, contribution of communication in coordination, training, providing unbiased information and monitoring in the promotion of RUM is crucial. Hence, communication strategies and tactics could interfere roughly in all efforts to achieve RUM. In fact, communication is the main component in all health promotion and public health interventions. The essential role of the communication in preventing ill health or promoting health is being systematized in health communication discipline. One of the health communication’s methods is social marketing which is “seeking to develop and integrate marketing concepts with other approaches to influence behaviour that benefits individual and communities for the greater social goods.”<sup>29</sup> According to Crawshaw “social marketing for health targets individuals and communities with the aim of encouraging behavioural change, often with populations deemed to be ‘at risk’.” He criticizes social marketing interventions as mostly individualized and therefore contradicting with public health strategies which aim to serve the society.<sup>30</sup> Social marketing is widely used in today’s health communication message design and implementation which positions individuals as responsible of their health

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<sup>26</sup> Akıcı, A. *et.al.*, Drug Utilisation in Turkey: First Results by SGK-Medula Database, 1st RESCAP-MED Symposium on Social Determinants of Non-Communicable Disease in Mediterranean Countries, [PPT], May, Istanbul, 2013, p.21.

<sup>27</sup> Nesrin Filiz Başaran and Ahmet Akıcı, “Patients’ experience and perspectives on the rational use of drugs in Turkey: a survey study”, *Patient Prefer Adherence*, 6, 2012, p.719.

<sup>28</sup> PAHO, What can be done to improve rational use of medicines?, [http://www.paho.org/hq/in dex.php?option=com\\_topics&view=article&id=398&Itemid=40982&lang=en](http://www.paho.org/hq/in dex.php?option=com_topics&view=article&id=398&Itemid=40982&lang=en) (12.03.2017).

<sup>29</sup> International Social Marketing Association, European Social Marketing Association and Australian Association of Social Marketing, Consensus Definition of Social Marketing, 2013, [http://www.i-socialmarketing.org/assets/social\\_marketing\\_definition.pdf](http://www.i-socialmarketing.org/assets/social_marketing_definition.pdf) (12.03.2017).

<sup>30</sup> Paul Crawshaw, “Public health policy and the behavioral turn: The case of social marketing”, *Critical Social Policy*, 33(4), 2013, p. 619.

behaviours. As a consequence, social determinants of health would be overshadowed.

Health communication message design is being guided by theory, and its two primary undertakings are theory-based and audience-centred message designs. Theory-based health communication message design consists of psychosocial theories of behaviour change. On the other hand, audience-centred message design focuses on understanding and addressing audience diversity.<sup>31</sup> Social marketing applies theory-based conceptual models.

Message framing is one of the techniques used in health related social marketing strategies. Framing Theory was first presented by Goffman (1974) and it is related to the agenda-setting tradition in mass communication. He emphasizes that framing helps individuals organize the information that they see through the “schemata of interpretation,” or a setting that turns the series of inconsequential events into something meaningful. Furthermore, these frameworks allow the audience to “locate, perceive, identify, and label a seemingly infinite number of concrete occurrences”.<sup>32</sup> Tversky and Kahneman later demonstrated the framing effect as a cognitive bias in their ‘prospect theory’ (loss-aversion theory) which asserts that individual’s preferences are sensitive to how information is framed. This behavioural economics theory describes how individuals make decisions between alternatives that involve risk,<sup>33</sup> and describe how people actually value gains and losses.<sup>34</sup> As “different ways of presenting the same information often evoke different emotions”; framing effects on preferences should be considered in rational decision process.<sup>35</sup> Prospect theory basically suggests people will take greater risks to avoid losses than to obtain gains. In 1995, Davis has examined how the framing of environmental communication influences attitudes and environmentally responsible behaviour. He concluded that loss-framed messages are more persuasive when the losses were emphasized on the current generation as they feel the negative impact of not changing the negative behaviour.<sup>36</sup>

Framing Theory has become the most widely used communication theory and described by Entman (1993) as a ‘fractured paradigm’ with no single definition. He identified two key components in framing as ‘selection’ and ‘salience’. Entman also indicated four functions of media frames as: to define problems, diagnose causes, make moral judgements, and suggest remedies. Therefore, the media provides audiences with schemas for interpreting problems and their causation,

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<sup>31</sup> Hyunyi Cho, *Health Communication Message Design: Theory and Practice*, Sage Publications, Thousands Oak CA, 2011, pp. xi-xiii.

<sup>32</sup> Erving Goffman, *Frame Analysis: An Essay on the Organization of Experience*, Northeastern University Press, Boston, 1986, p. 21.

<sup>33</sup> Amos Tversky and Daniel Kahneman, “The framing of decisions and the psychology of choice”, *Science*, New Series, 211(4481), 1981, p.435.

<sup>34</sup> Daniel J. O’Keefe, “Lessons from the story of gain-framed and loss-framed persuasive messages”, in *Health Communication Message Design*, Hyunyi Cho (ed.), Sage Publications, Thousands Oak CA, 2012, p. 7.

<sup>35</sup> Daniel Kahneman, *Thinking, Fast and Slow*, Penguin Books, London, 2011, p.88.

<sup>36</sup> Joel J. Davis, “The effects of message framing on response to environmental communication”, *Journalism and Mass Communication Quarterly*, 72(2), 1995, p.295.

evaluation and/or solution.<sup>37</sup> Later, Entman concluded with a consensus definition of the theory taking into consideration Gamson and Modigliani (1987), Gamson (1992), Severin and Tankard (1997), Reeds (2001) and McCombs (2004) works: “*Framing involves selecting and highlighting some facets of events and issues, and making connections among them so as to promote a particular interpretation, evaluation and/or solution.*”<sup>38</sup> On the other hand, not only news media but also mediated health communication campaigns imply frames in order to highlight selected issues and suggest solutions. Furthermore, since message framing effects on causal attribution, persuasive appeals of gain-framed and loss-framed messages are also related to the attribution of responsibility on the requested behavioral change.

### *Gain-Framed vs. Loss-Framed Messages*

Persuasive appeals of gain-framed or loss-framed messages are based on psychological theory. Information about health behaviour can emphasize the benefits of taking action or the costs of failing to take action.<sup>39</sup> Hence, a gain-framed appeal emphasizes the advantages of the advocated action or viewpoint. On the other hand, a loss-framed appeal emphasizes the disadvantages of not adopting the advocated view.<sup>40</sup> Druckman categorises the effects of these frames in equivalency framing in which different, but logically equivalent phrases are being offered to cause individuals to alter their preferences.<sup>41</sup>

Although the psychological phenomena of negativity bias and loss-aversion suggest that loss-framed appeals are more persuasive than gain-framed appeals, recent empirical evidence revealed that there is no significant difference in persuasiveness between these two appeals.<sup>42</sup> Mann *et. al.* revealed in their research that personal characteristics with avoidance orientation responded more to a loss frame, however those with an approach orientation responded more to gain frame.<sup>43</sup> Rothman and Salovey suggested that the context in which health-related decisions are made should be considered in evaluating the effectiveness of framed messages.<sup>44</sup> Furthermore, Rothman *et. al.* indicated that loss-framed messages are more effective when promoting

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<sup>37</sup> Robert, M. Entman, “Framing: Toward Clarification of a Fractured Paradigm”, *Journal of Communication*, 43(4), 1993, p.52.

<sup>38</sup> Robert M. Entman, *Projections of Power: Framing News, Public Opinion, and US Foreign Policy*, Chicago, Chicago University Press, 2004, p.5.

<sup>39</sup> Alexander J. Rothman *et al.*, “The strategic use of gain- and loss-framed messages to promote healthy behaviour: how theory can inform practice”, *Journal of Communication*, 56, 2006, p.203.

<sup>40</sup> O’Keefe, *op.cit.*, p.4.

<sup>41</sup> James N. Druckman, “The implications of framing effects for citizen competence”. *Political Behavior*, 23(3), 2001, p.228.

<sup>42</sup> O’Keefe, *op.cit.*, pp.5-7.

<sup>43</sup> Traci Mann, David Sherman and John Updegraff, “Dispositional motivations and message framing: a test of the congruency hypothesis in college students”, *Health Psychology*, 23(3), 2004, p.330.

<sup>44</sup> Alexander J. Rothman and Peter Salovey, “Shaping Perceptions to Motivate Health Behavior: The Role of Message Framing”, *Psychological Bulletin*, 1997, 121(1), p.16.

illness-detecting (screening) behaviours, but gain-framed messages are more effective when promoting health affirming (prevention) behaviours.<sup>45</sup> Rothman *et. al.* discussed also that “gain-framed and loss-framed messages do not always lead to an increase in healthy behavioural practices”, and characteristics of the message recipient and of the desired behaviour, for example the perceived risk should also be taken into account.<sup>46</sup> Therefore, the effectiveness of persuasive appeals in health messages depends on various determinants which should be assessed with further empirical researches.

### *Individual Frame vs. Societal Frame*

Druckman categorises the effects of frames which offers individuals to focus on certain aspects or characterisations of an issue instead of others in emphasis (issue) framing.<sup>47</sup> Strategic use of emphasis framing operationalises as individual and societal frames. Individual frames highlight individual culpability and therefore individual responsibility. Alternatively, societal frames highlight socially conditioned culpability and therefore collective responsibility.<sup>48</sup>

Changing/shaping attribution perceptions via framing aims to promote desired behaviours.<sup>49</sup> Iyengar differentiates two definitions of responsibility as causal and treatment responsibilities. Causal responsibility focuses on the origin of a problem, whilst treatment responsibility focuses on who or what has the power to alleviate the problem.<sup>50</sup> Iyengar attaches two frames of thematic (presents general trends and background of the issue) and episodic (presents personal experiences, individual stories about the issue) to these two kinds of responsibilities. His research on poverty revealed that thematic frames assign responsibility of a social issue to solely to society-at-large or government, whilst episodic frames assign responsibility of this particular issue to individuals.<sup>51</sup>

A health message which frames individual responsibility assigns responsibility of the health status of the individual to his own choice, therefore to his own behaviour as in social marketing. On the other hand, social responsibility frame refers to participatory actions taken to improve the socio-political environment and benefit a larger population.

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<sup>45</sup> Alexander J. Rothman *et.al.*, “The Systematic Influence of Gain- and Loss-Framed Messages on Interest in and Use of Different Types of Health Behavior”, *Personality and Social Psychology Bulletin*, 25(11), 1999, p.1368.

<sup>46</sup> Rothman *et.al.*, 2006, p.216.

<sup>47</sup> Druckman, *op.cit.*, p. 230.

<sup>48</sup> Ye Sun *et.al.*, “Framing Obesity: How News Frames Shape Attribution and Behavioral Response”, *Journal of Health Communication*, 21(2), 2016, p.141.

<sup>49</sup> *Ibid.*, p. 142.

<sup>50</sup> Shanto Iyengar, *Is Anyone Responsible? How Television Frames Political Issues*, University of Chicago Press, Chicago, 1994, p.8.

<sup>51</sup> Shanto Iyengar, “Framing Responsibilities for Political Issues: The Case of Poverty, Political Behavior”, 12(1), 1990, p. 20.

## **Theoretical Framework and Methodology**

As it has been reviewed earlier, Turkey is a growing pharmaceutical market and indicates a steady rise in medicine consumption over the years. Moreover, rates of overconsumption and inadequate use of medicines point out that IUM is a serious public health challenge for the country. Although IUM is a multi-causal public health issue, our research focuses specifically on the communication aspect of IUM. Two research questions arise on the implementation of the public and private sector's health communication messages on the issue:

Q1: Which persuasive appeals have been mainly implemented in health messages in order to motivate publics towards RUM by public and private sectors? Which message frames have been used?

H1: Negative emotional appeals and more specifically loss-framed appeals are mainly implemented in RUM campaigns in both sectors' health messages.

Q2: Which stakeholder(s) in RUM has/have been assigned as responsible? Are individual or societal frames of the campaign rationales compatible with public vs. private interests?

H2: Responsibility in RUM has been essentially assigned to consumers (individuals/patients).

To this end, health message frames in the health communication messages conveyed by governmental agencies (TMMDA of the Ministry of Health, SSI of the Ministry of Labour and Social Security), a pharmaceutical company (Abdi İbrahim), and five hospitals (state and private) will comparatively be qualitatively content analysed. The selected types of formats are websites, PSAs (TV adverts) accessed via Youtube, educational activities, posters, and leaflets accessed via Google search<sup>1</sup>. A dual coding scheme of gain and loss-framed appeals, combining with responsibility frame was drafted by the authors based on the message framing theory.

## **Analysis and Findings**

Findings of the content analysis of the health message frames are presented below in five groups: Turkish Ministry of Health, SSI, Abdi İbrahim, NGOs, and hospitals.

*Turkish Ministry of Health*

Turkish Ministry of Health has issued the ‘RDU National Action Plan 2014-2017’ to target IUM.<sup>52</sup> The TMMDA is the main government agency that delivering health communication messages on RUM.

Website

This website is mostly prioritising the rational use of antibiotics. The website’s homepage (<http://www.akilciilac.gov.tr>) content area consists of paging navigations to more detailed informations (e.g. RDU National Action Plan), announcements, activities of the Ministry on RUM, newsletters, and a video titled “*Unnecessary Antibiotic Use*”. The slogan “*My medicine; neither less, nor more*” and the headline “*RUM*” exist on each web page. The navigation menu consists of links to pages about informations on RUM. Navigated pages have the same scan column with RUM related informations. The website is targeting general public, along with stakeholders who might look up informations on the issue.

PSAs

A PSA uploaded on the homepage of <http://www.akilciilac.gov.tr> and on Youtube depicts a lamp that lights on a day time. A voice-over is being used to deliver the messages of “*We are using antibiotics irrationally; it is like we let this lamp on when we don’t need it*” and “*Misuse of antibiotics leads to antimicrobial resistance and they won’t work when we actually need them*” whilst the scene gets darker, but the lamp broke down and went off. This PSA is targeting general public, and more specifically patients. Lamp metaphor is being used in order to explain antimicrobial resistance in a way to be understood by the lay people. The responsibility on RUM is assigned to patients and loss frame is being used by referring to patient who might become vulnerable when an actual need of antibiotic occurs.

Another PSA for TV is depicts patients trying to open a medicine container written ‘antibiotic’ on it, but thankfully not being successful. Then, a female physician is opening the container and informing on rational use of antibiotics as following: “*Antibiotic is not a painkiller and not a substance to reduce fever. It is not being used for every case of sore throat and cough. Unnecessary use and misuse of antibiotics harms. Please, don’t risk your health.*” The PSA ends with a voice-over: “*Don’t use or request antibiotic unless prescribed by your physician*”.

In this PSA, patients lack of awareness and skills to use medicines on their own are being portrayed by a metaphor of not being able to open the medicine

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<sup>52</sup> Turkish Ministry of Health, Rational Drug Use National Action Plan 2014-2017, <http://www.akilciilac.gov.tr/wp-content/uploads/2014/11/Rational-Drug-Use-National-Action-Plan.pdf> (11.02.2017).

container. Patients who exert pressure on physicians and pharmacists are being implied by “*do not request*” message. When considering that dispensing of antibiotics without prescription is not allowed at pharmacies, it might be commented as doctors are facing this pressure, and they might occasionally approve these requests. The words ‘harm’ and ‘risk’ refer to a loss-framed appeal and the responsibility on rational use of antibiotics is assigned to patients.

Both PSAs are targeting patients on promoting rational use of antibiotics. However, antibiotics are only available on prescription; therefore patient cannot decide to use antibiotic.

### Educational Activities

The TMMDA’s activities at schools aim to educate pre-school, elementary, secondary school, and high school students on RUM. Findings of the content analysis of power point presentations (PPT) used by educational purpose are as following:

-Pre-school level: This PPT consists of simple informations provided by simple childish drawings which is portraying happy children examined by a physician and having a medicine given by his/her mother. Microbes are being depicted as little monsters which have lost the battle against the body. Children are being advised healthy choices as following: “*If we use our medicines according to our doctor’s recommendation and consume healthy food when we get sick; we would be healthy again and go back to our friends.*” In this presentation, six years old children are being told to “*take medicine prescribed by a physician from only a pharmacy*” and to “*use medicine appropriately and timely as it has been described by a physician and pharmacist*”. Children are also being warned against hazardous consequences of using medicines. It can be stated that children less than 6 years old cannot be expected to have initiative in these matters, and even they might recall how to use the medicine as told by the doctor cannot use them without any supervision. Therefore, illiterate pre-school children cannot be held responsible of the appropriate medicine use. This presentation is assigning some responsibility to children, yet it is also pointing out that their medicine should be given by their elders and health professionals. Furthermore, it is also being indicated that medicine is not a candy and it should never be played with. In fact, the only information essential on medicine use for pre-school children is the latter.

-Elementary school level: This PPT is consists of simple informations provided by simple drawings. In this PPT, more responsibility is being assigned to elementary school students. It is being stated that only the doctor can prescribe medicine and could only be purchased from pharmacy. A gain-framed message is as following: “*If you follow properly the doctor's treatment, you will recover.*” On the other hand, the responsibility of using medicine timely, on an empty or on full stomach and also taking it with plenty of water is assigned to children. In this PPT there is some information on prospectus and expiry dates. It is also being indicated that prospectus must “definitely” be

read. Children are being warned against disadvantages of underuse and overuse of medicines. However, it has also being indicated that children should not use medicine without supervision. Moreover, they are being told that they should not touch them and call an adult to take precautions when they come across a medicine or medical equipment. As a consequence, a contradictory discourse is arising: Children are being told to know how to use a medicine, to read prescription and check expiry date of a medicine that not supposed to touch. On one hand children are being motivated for a relatively close relationship with medicine, on the other hand they are being told to stay away of it.

-Secondary school level: This PPT consists of slightly modified simple drawings and more detailed information compared to those targeting pre-school and elementary children. Instead, more serious visuals could have been used. It also contains a definition of RUM. In this PPT, the responsibility on RUM is being shared between various parties. Hence, it is being stated that *“physicians, pharmacists, nurses and other health professionals are important duty on RUM”*. The secondary responsibility is being addressed as individuals as following: *“Besides, patient and its relatives should also be informed during his or his relative’s treatment”*. In this PPT, children are being warned on precautions should be taken against themselves as in this message: *“Medicines should be stored out of reach of children.”* It is also being stated that children cannot use medicines without any supervision. However, children are being asked to be cautious about the use of medicines (taking medicine on an empty or on full stomach, how food interacts with medicines, how expired medicine can be life-threatening, how herbal products can be hazardous etc.) A loss-framed appeal has been used as in this following message: *“If medicines are not used properly, they might cause several diseases.”* It is being also indicated that, besides the information given by health professionals, prospectus should “definitely” be read. Once again, children who should not reach the medicine and not allowed to use without supervision, is being asked to get informed how to use a medicine and read the prospectus. On one hand, children are being appealed as they have responsibilities. On the other hand, they are being asked not to touch medicines unless supervised by adults. Therefore, these informations might be considered as to aim to warn adults or to be useful in the future. Hence, only a so-called responsibility is in question.

-High-school level: This PPT consists of simple drawings, but this time figures are representing youngsters instead of children. A discourse which targets adults is being used. There are some information on medicines, RUM, antibiotics, and basic health rules. Individuals are being warned in order to inform doctor and pharmacist about their special health condition. It is being indicated that medicine should be prescribed by doctor and purchased from pharmacy, and medication should not be purchased without prescription. Students are being warned against irrational use of antibiotics as following: *“Antibiotic resistance is not only an issue for those who misuse them, but for everyone who may be affected by resistant bacteria”*. In the following message pressuring doctors over prescription is being depicted: *“Doctors should not be faced pressure to prescribe a medication when they think it is not required, by*



*patients who want to keep medications at home just in case*". This PPT is actually targeting adults rather than high-school students, since pressuring doctors are not amongst the habits of individuals under 18 years old. In this PPT, youngsters are being warned against misuse of medicine with an expectation of a fit body. At the end of the presentation, guidelines in appropriate use of antibiotics are being indicated. With the slogan of "*At the right time, the right dosage, the right antibiotic*"; benefits of antibiotics and negative effects caused in case of misuse are being underlined.

### Posters

These posters are mainly addressing antibiotic use and are targeting patients. Yet, they are containing warnings on dosage and timing on the use of medicines. A poster with a slogan "*Not too much but appropriate medicine heals*" aims to prevent overconsumption on medicine. One another poster with a title of "*How shall I use my medicine?*" is using gain-framed appeal with a message of "*get your health back as soon as possible.*" A poster with a photo of two young smiling physicians with a title of "*My medicine; neither less, nor more*" is informing on the use of medicine if only physician considers that is necessary. This poster is not only informing patients, but patients' acquaintances as well, and also is advising on the possible side-effects. Therefore, unlike many others posters and PSAs which are depicting individuals as human-beings who should not do anything except taking their medicines prescribed by a physician or who does not have any query about his medicines; individuals are being more informed and then assigned more responsibility. The same photos of the physicians are being used in other posters, but with different slogans such as "*Never before asking to physician*", "*Use your medication in a specified time and dosage*", and "*Store your medicines out of reach of children.*" Posters with messages of "*antibiotics are not a panacea*", and "*Protect yourself from influenza and cold, don't use antibiotics*" (negative consequences is not mentioned) are using a loss-framed appeal and warns individuals against unnecessary use of antibiotics.

The frames applied in these posters are assigning responsibility to individuals. Gain-framed appeals are rather being used. Fear appeal is not being used in loss-framed appeals.

### Leaflets

These leaflets are mostly the minimized versions of posters, yet few of them provide more detailed informations on RUM. Apart from the leaflets with the same content with the posters, a leaflet with a slogan of "*Don't use antibiotics irrationally, don't let it darken your future*", an image of a young female smiling physician is being used. Another leaflet with a slogan of "*Your health is valuable*" is informing on the methods of using medicines, herbal medicines and side-effects, and one another leaflet is providing the phone number of the 'medicine side-effect line'. Another leaflet co-produced by the

Public Health Institution is using loss-framed appeal with a slogan of “*We shall use antibiotics rationally before it gets too late*” which implies a health status deterioration caused by misuse of antibiotics.

Posters and leaflets of the Ministry of Health on RUM are mainly using young smiling physicians which are giving an impression as audiences are being informed by a physician. Responsibility is being assigned to individuals/patients in the posters and leaflets. Both gain-framed and loss-framed messages are being implied.

### *Social Security Institution (SSI)*

The SSI informs the general public on RUM mainly via a website, PSAs, posters, and leaflets.

### Website

On the SSI’s website on RUM (<https://gss.sgk.gov.tr/aik/index.xhtml>), the navigation bar contains links for “RUM for health professionals”, “RUM for SSI staff”, and “RUM for general public”. The first two links cannot be accessed by the public. “RUM for general public” comprises segmentation for individuals older than 65 years old, pensioners, and caregivers. This site cannot be easily-accessed from the homepage, and one must know the URL. SSI’s website link on “RUM for the general public” contains posters.

### PSAs

The SSI is being conducting a more comprehensive campaign targeting larger audiences. Informations are being delivered not only on choosing medicines, but also on medication warnings for the use on right dose and right time. The slogan of the campaign is “*Don’t play game with your health, use your medicine rationally*”. Some of the PSAs are featuring celebrities giving advices on RUM such as: “*Never use someone else’s medicine, and don’t use medicines unnecessarily*”, “*Don’t harm your health by misusing medicines, don’t waste medicines*”, “*Don’t take medicine on recommendation*”, “*Using medicine is not a game*”, and “*You should use a medicine prescribed by a doctor and follow his instructions*”, “*Using medicines without medical examination threatens your health as well as causes medicine waste*”, and “*Inappropriate medicine does not cure, it ruins your health.*” In these PSAs, individuals who are recommending medicines to each other and trying to have a prescription from a doctor for a medicine recommended by a neighbour are being depicted.

Personal recommendation of medicines by acquaintances or friends is being indicated as an important impediment on RUM. Since PSAs (TV advertisements) are having the opportunity to reach a larger audience, messages are targeting individuals and mainly attribute the responsibility on RUM to them. On the other hand, physicians who are facing pressure from patients who ask for

prescriptions have been depicted in these PSAs, therefore the physicians are also being assigned as responsible. However, IUM caused by prescription is not limited to individuals exerting pressure on health providers, but an issue influenced by cultural, social and economic factors.

Individuals/patients are being represented in these PSAs as belonging to the middle or lower classes, and not well educated. These individuals are recommending medicines such as blood pressure pills to each other and receiving recommendations from their neighbours. As a consequence, RUM is being also depicted as an issue of education and social class in these PSAs. RUM is being elaborated as an issue caused by patient/individual's irrationality and greed on consumption in these PSAs. Furthermore, medicine waste is being referred as an important subject on PSAs and posters. In accordance with the SSI's mission, RUM efforts aim at preventing overconsumption and unnecessary use of medicines.

The analysis revealed that loss-framed messages are being more frequently used, reinforcing individual responsibility on RUM.

### Posters

The poster titled "*What is RUM?*" is informing general public on the concept and prioritises "*appropriate use of medicine*", "*right way and cost-effective use of medicine*". 'Cost' issue is essential for the SSI, as it can be noticed in one another poster titled "*Avoid medicine waste*". In this poster, the responsibility is assigned to individuals as following: "*This attitude is a responsibility towards both yourself and the society*".

The SSI's posters are also using loss-framed appeal as in "*Do not take medication with recommendation of your relatives and friends, do not play game with your health*", and also gain-framed appeal as "*I am using my medicine rationally, I am living a healthy life*" messages.

On the other hand, a poster is informing on RUM process and explaining that the process covers all the "right" procedures from the production to the safe disposal of the medicines. In this poster, responsibilities of pharmaceutical companies, medicine transporters, physicians, patients and safe medicine disposal providers are being assigned. Hence, this poster assigns responsibility on RUM in a most comprehensive way. SSI posters aim to raise awareness on RUM concept and appropriate behaviours in RUM.

### Leaflets

The SSI's leaflets on RUM are being designed for different target audiences. The content consists of types of medicines (e.g. antibiotics), and some informations on herbal medicines and dietary supplements etc. These leaflets aim at raising awareness of individuals on RUM with a comprehensive content, however the accessibility of this tactic is low. If individuals cannot reach these leaflets provided by SSI, it cannot be expected that they would search the

information necessary for them. Once again, the responsibility is being assigned to the individual.

*Abdi İbrahim (Pharmaceutical Company)*

Abdi İbrahim has launched the “RUM” health communication campaign integrated in its corporate responsibility strategy in 2014.

Website

The corporate website (<http://www.abdiibrahim.com.tr>) has a link to navigate to its RUM campaign web page. In this web page, the campaign slogan “*Don’t Play Doctor Games, Don’t Irrationally Use Medicines*” which refers to individuals responsibility on IUM is being used. Even though, responsibilities of physicians and pharmacists are being mentioned as “[...] *in line the dosage and time prescribed by the physician, and in consultation with the pharmacist*” on the content area of this page; consumers are being assigned as responsible in RUM in the title as following: “*Use Medicines Wisely!*” Definition of RUM and its principles, informations on RUM, and posters are also being displayed on this web page.

PSAs

Four different situations are being depicted in the PSAs in which individuals are behaving irrationally on medicine use:

- Cengiz who is taking a pill to relieve tiredness of his exams on his housemate’s assurance of “*take this pill, you will be sturdy*”. He is mistaken and “*swallowed the pill*” (a Turkish idiom which means to be in trouble). “*Now he is both dealing with tiredness and problems caused by misuse of medicine.*”
- Mr. Hikmet, who is suffering from back pain, is taking a pill on his colleague’s assurance of “*you feel like a million dollars*”. He is mistaken and “*swallowed the pill*” (once again referring the idiom). “*Now he is both dealing with back pain and problems caused by misuse of medicine.*”
- Mrs. Nurten, who is suffering from the headache, takes a pill on her neighbour’s assurance of “*you will as fit as fiddle.*” She is mistaken and “*swallowed the pill*”. “*Now she is both dealing with the headache and problems caused by misuse of medicine.*”
- Mr. Ahmet, who is suffering from a sore throat, is finding a medicine in his medicine cabinet which he has previously used. He is swallowing the pill without considering if it is appropriate for his illness and the way to take it, and as a consequence he “*swallowed the pill*”. “*Now he is both dealing with his sore throat and problems caused by misuse of medicine.*”

- Mr. Selim, who is feeling weakness, is swallowing a pill by a recommendation of a colleague who told him *“if you take this you’ll feel fabulous”* and he *“swallows the pill”*. *“Now he is both dealing with his fatigue and problems caused by misuse of medicine.”*

The metaphors used in these advertisements with their meaning in English such as *“fresh as a daisy”*, *“right as rain”*, and *“as fit as a fiddle”* are very common amongst lay people in Turkey. Different PSAs are using visual metaphors with a picture of turnip, a staple, a bomb, and a rock which refers again to be *“as fit as a fiddle”*. Every single condition which is being stated in PSAs is ending by an inappropriate use of medicine with a metaphor of *“swallow a pill”* which refers that the situation is worsened. In these PSAs, although fear appeal is being used in order to warn audience against IUM’s frightening results, humorous language is also being implied. In these messages, IUM’s very dramatic results are being underlined, but inefficiency of IUM is not being mentioned. Therefore, it makes the individuals/patients to think that IUM leads to loss of health. The sentence of *“now he/she is both dealing [...] and with problems caused by misuse of medicine”* at the end of each PSA implies that this loss is not temporarily, but it also costs time and effort.

Abdi İbrahim’s health communication messages are individualistic, and attribute the responsibility on IUM directly to consumers in advertisements. The main focus on PSAs is the use of medicine on recommendation of someone other than doctor. Furthermore, alternative ways of IUM by individuals are also not being mentioned.

Although activities targeting physicians and pharmacists have been implemented, and the corporation’s executives refer to joint responsibility of pharmacists and patient; advertisements on mass media with a broad target audience mention individual/patient’s misconduct. On the other hand, patient right of requesting information from a physician or a pharmacist and therefore emphasising their responsibilities in IUM is not being mentioned.

### Posters

The posters are containing the same names of the individuals and also the same situations depicted in the PSAs. On the visuals, an object on a white background or an image of an individual is being used. Therefore, individual is being attributed as a sole responsible and person who might suffer the consequences of IUM. The target of these advertisements is individuals/patients, who are health illiterate on using medicines, and who are considering to take a medicine on recommendation of others. Although a research conducted by the company indicates that the use of medicine on recommendation is a frequent behaviour of the participants, yet no findings have been revealed on the implementation of this behaviour by these individuals. Hence, IUM has been elaborated as a problem caused by health-illiterate and irrational individuals. On the other hand, these individuals are being mainly depicted as middle-class,

ordinary people. While the research has revealed that storing medicines with past expiry dates and using these medicines are also amongst consumer behaviours on medicine, yet it has not been communicated in the advertisements. Furthermore, it is a narrow approach to represent as the sole responsibility of individuals is not to use medicine on recommendation.

### *Hospitals*

Turkish public and private hospitals are mainly using the same campaign materials on RUM of the Ministry of Health and the SSI. Our search for PSAs produced by hospitals uploaded on Youtube was inconclusive.

### Websites

Several private hospitals are declaring their RUM policies and are sharing informations on the issue on their websites. For instance, MD.Mustafa Kalemli Tavşanlı State Hospital staff has created a PSA using sign language to inform about RUM. Loss-framed appeal is being used such as *“your children’s health is in your hands”* and *“irrational use of medicines kills”*.

Dokuz Eylül University Hospital (state) is using a video on its Youtube account in which a sneezing panda is featuring and the slogan of *“If you have cold or flu, protect yourself. Don’t take antibiotic”* is being used. However, it is not mentioning how individuals who have been assigned as responsible on RUM, might protect themselves after catching cold or flu. Although, risks of taking antibiotic to cure cold or flu are not being mentioned, it might be considered as a loss-framed appeal.

Istanbul Hospital (private) has declared a RUM policy on the hospital website and assigned a team for the in-house implementation of RUM. The hospital has assigned responsible stakeholders as physicians, nurses, and pharmacists. It has been noticed that patients should be informed on RUM under the supervision of the team.

Medical Park Hospital (private) has founded a Rational Medicine Outpatient Clinic which goal is defined on the website as *“Diminish both prescriptions and budgets”*. This message is using a gain-framed appeal.

### Leaflets

Leaflets used by both public and private hospitals are using the same messages as the government agencies. As an example, Gaziosmanpaşa University Hospital (state) is using four leaflets to promote RUM. A photo of a young blond female physician is being mostly used in these leaflets in which the Ministry of Health and the SSI slogans of *“Not that much medicine, but the appropriate medicine would heal”*, *“antibiotics are not a panacea”*, *“My medicine; neither less, nor more”*, and *“Use your medications in specified time and dosage”* are being used. Both loss and gain-framed appeals are being implied and responsibility is assigned to individuals/patients.

## **Results and Discussions**

Our research has been revealed that the health communication messages on RUM conveyed by the Ministry of Health have implied both loss and gain-framed appeals in a rather balanced way. As both state and private hospitals have mainly used government messages on the issue, the same balance is relevant. Considering the effectiveness of these frames is thus far contradictory; a more balanced implementation is a more practical choice. On the other hand, SSI and Abdi İbrahim has mainly used loss-framed appeal and also fear appeal in their negative emotional appeals.

Rational use of antibiotics which is at the second rank in medicine consumption in Turkey has been mainly targeted in the health communication efforts of the both sectors. However, painkillers and antidiabetics use are respectively at the first and third rank but not focused specifically in the campaigns.

The research has also revealed that the main key audience is consumers (individuals/patients) in both sectors' messages. Although consumers are the very last link in the long process of RUM, yet are the only potential victim of the negative consequences of IUM; they have been predominantly assigned as responsible on their own health decision, which is to use medicine rationally. Consequently, IUM's causes related to other stakeholders such as health system, health professionals, pharmacists and pharmaceutical industry are being mostly left out of the frame. The SSI, and to some extent the Ministry of Health has targeted various stakeholders compared to private sector. On the other hand, 'selection' and 'salience' of the risks and solutions presented in the messages to shape perceptions in order to promote RUM has demonstrated some incompatibilities in targeting audiences (e.g. a message for pre-school children to warn on inappropriate use of medicine). Instead of targeting, tailoring messages would be a more effective solution to fit the message. The accessibility of the messages conveyed by the Ministry of Health and the SSI which are targeting other stakeholders than consumers was challenging which was a limitation for our research.

Both sectors are informing individuals/patients in order to raise awareness and influencing behaviour on RUM with their messages. However, both parties are predominantly assigning responsibility to consumers with message framing. Individual responsibility refers to be held responsible on one's own behaviour and roots in Utilitarianism and compatible with private sector interest. On the other hand, public interest could only be served more effectively with societal frames instead of individual frames. Nevertheless, the rationale is compatible with neoliberal health policies.

## **Conclusion**

Medicines are undoubtedly an essential part of healthcare and their rational use is essential in preventing individual and societal risks that might arise and

also substantial economic loss. However, IUM has become a global and complex multi-causal public health issue. Accordingly, solutions addressing to this specific issue should be derived from a multi-disciplinary approach. For instance, health communication as a multi-disciplinary area might offer behavioural change in intended audiences to use medicines rationally. However, tailoring effective health messages requires a theoretical guide.

On the battleground of this particular public health issue, private interest serves principally to market justice. However, health communication efforts in public interest should serve to social justice that highlights respective responsibilities of stakeholders in a broader scope.

## Notes

<sup>1</sup> Campaign materials have been accessed via organisational websites and <https://www.youtube.com>

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