

Health on the silver screen: implications for physicians

To the Editor Every evening billions of people around the world sit down in front of the television for entertainment and good fun. Apart from world news, sport results, and weather forecast, viewers may also watch some improbable medical cases treated by Dr. House or learn about preventive surgery of Angelina Jolie; in other words, they encounter information related to health. And, with no doubt, what they see is usually far from reality. In real life, medical treatment does not always lead to full recovery. It is usually a longer, more complicated, and even more painful process than is shown on the silver screen.

While most of us are willing to suspend disbelief for a good story, the task faced by doctors is doubly difficult. Bulletproof superheroes usually have 24 hours to save the world. And it ultimately does happen even though we know this is impossible. But in real life, not every lawyer in the court wins, not every case will be resolved by a police officer, and finally, not every patient is cured. On the other hand, a growing popularity of medical talk shows and high ratings of medical television series prove that all people around the world are fascinated by the subject of health. They are interested in everyday hospital life and appreciate the fact that they can watch it from a doctor's perspective. In fact, they are motivated by the will to be entertained, but confronting the viewer with health-related content on television appears beneficial also from the educational standpoint.

From this perspective, the "health on the silver screen" mission is written for three actors: the role for screenwriters is to approach the subject substantively so that viewers could have a close-to-reality image of medical treatment and doctors do not get a heart attack watching it on television. And a postscript: "any resemblance to a real situation is coincidental" is only the first step to approach this issue.

TV shows: error found When it comes to medical dramas, an inaccurate representation of medical activities can have particularly dire consequences. A study by Moeller et al.¹ showed that the first aid management of seizures performed by actors playing health care professionals was

inappropriate in nearly half of 65 identified cases (the study examined 364 episodes of the 4 of the most popular series in American television: *Grey's Anatomy*, *House M.D.*, *Private Practice*, and *ER*).

"Fortunately, it's television!", we could say. But physicians might do more. Such incompetency should constitute the basis for assuming the role of a "myths' slayer". Physicians have the right to identify these errors, name them, and sensitize their patients to a careful assessment of what they watch. But it should not be the job only of the doctors. A TV studio is not required either. Such Internet tools as a critical blog, website, or dedicated forums (for example, pogromcymitowmedycznach.pl) could also be utilized.

More optimistic than in "real life" In 2011, on average 8.4 million French watched *House M.D.* every week. But what did they actually see in terms of medical practice? This is the question that was asked by a team of Dr. Frédéric Lapostolle from University Hospitals of Paris Seine-Saint-Denis in Bobigny.² The French researchers studied 225 diagnostic interventions of Dr. House's team in the 2011 season (on average 14 interventions per episode, that is, 1 every 3.1 minutes). Among complementary tests, magnetic resonance imaging came on top (72%) before standard laboratory tests (61%), biopsies (56%), ultrasound (39%), scanners (33%), angiography (17%), electroencephalography (17%), and electrocardiography (11%). The other 22 examinations were performed at least once during the season. And what was the reason? Patients were suffering from various—real but rare at the same time—diseases such as cerebral aneurysms, hemochromatosis, Crohn disease, a supernumerary spleen, acute lymphoblastic anemia, Fabry disease, Hughes–Stovin syndrome, Wilson disease, melanoma, Whipple disease, or Arnold–Chiari malformation. The medical procedures used in *House M.D.* were far more complex than those routinely performed at emergency departments in daily medical practice, not only in France (such as electrocardiography, laboratory tests, or X-ray imaging). On television, doctors performed particularly expensive examinations, which in reality

take much longer (in France 32 days for an MRI in 2011 and in Poland—304 days). This information should be made public especially that 8.4 million French represent 33% of the national audience.

Screenwriters on training The above errors and lack of realism may lead to patients' aggression or seeking support "like that on TV". To avoid such consequences, medical series in particular should be broadcast with a warning message that the situations presented are not real, and even more importantly, with accurate information on health. Complaining to Hollywood will not help. Screenwriters work under a lot of pressure to meet tight deadlines, and their main goal is to entertain rather than educate so there is little hope that this will change. It is not a school, it is show business. A solution to this problem is called *Hollywood, Health & Society* (HH&S). It is a place where screenwriters, directors, and producers meet professionals. HH&S is a program at the Norman Lear Center at University of Southern California's Annenberg School, which provides entertainment industry specialists with accurate and up-to-date information for health and climate change storylines, through expert consultations and briefings, panel discussions, and online tip sheets. In partnership with the Centers for Disease Control and Prevention and several other agencies and foundations, the program recognizes the profound impact that entertainment has on behavior. Between 2009 and 2014, the HH&S's goal of improving the accuracy of health storylines on TV shows and films resulted in more than 700 aired storylines across 91 shows from 35 networks.³ *CSI*, *NCIS*, *Mad Men*, and *Grey's Anatomy* are on the list.

When fiction meets reality At the same time, there is a potential in fictional medical series for professional use. They might bring an unconventional inspiration and significantly affect the healing process. Such an incident occurred in Marburg University Clinic.⁴ Thanks to the analogous symptoms of a character in one of the episodes of *House M.D.*, the doctors managed to diagnose correctly their patient with untypical coronary heart disease. The patient was admitted to the hospital with an acute heart failure of unknown etiology. The patient had a history of a hip replacement surgery. The ceramic-on-ceramic prosthesis was changed for its metal-made equivalent. Professor Schaefer, head of the medical team, personally a big fan of *House M.D.*, compared the symptoms of his patient to one of the episodes of the series (season 7, episode 11). One of the character also experienced inexplicable heart problems. Dr. House's diagnosis was cobalt intoxication from the metal hip implant. The doctors in Marburg ordered a radiography of the hip and measured cobalt and chromium. The results showed that the norms were exceeded 3-fold. It turned out that the metal endoprosthesis was damaged by the remnants of the previous one and, as a result,

eroded. The patient underwent another surgery and was given a new hip prosthesis. The level of cobalt and chromium stabilized, heart function improved by 40%, and part of the symptoms subsided. In Marburg University Clinic, *House M.D.* still serves as a resource for medical students.

There is always something to beware of While an average American spends 5 hours and 11 minutes daily in front of the silver screen,⁵ the emergence of health experts is no longer a surprise. They appear on daytime television, commenting on reports related to health, medicine, hygiene, nutrition, or physical fitness. As a result, many viewers get their health advice not from their own physician but from television, expecting proven and certain recommendations. But what is the real value of such "medical" advice? This question was asked by Korownyk et al.⁶ who analyzed 2 health-dedicated talk shows: *The Dr Oz Show* and *The Doctors*. The Canadian researchers selected 160 pieces of advice from both programs and proved that the medical information presented was insufficient and not supported by any medical evidence (39% for *The Dr Oz Show*; 24% for *The Doctors*) or was contradictory (15% for *The Dr Oz Show*; 14% for *The Doctors*). Although the exact impact of television health advice has not been established because the study did not investigate how many of the recommendations were adopted by viewers, the message is clear: being a TV expert is not as easy as it seems.

A conventional process of appearing as an expert should involve the reviewing of evidence, and the information should be presented to the audience in a balanced, objective, and comprehensible way. A combination of substantive knowledge, rich experience, and freedom of expression in front of the camera may be helpful. Fluency, ability to build short and compact sentences, and adapting communication style to the expectations of others are the skills that can be trained. In combination with passion and pragmatism in transferring the spoken content into practice in everyday life of the viewers, the constructive dialogue about health is more reliable and can be trusted. In the context of health, a movie-star look is really not enough.

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REFERENCES

- 1 Moeller AD, Moeller JJ, Rahey SR, Sadler RM. Depiction of seizure first aid management in medical television dramas. *Can J Neurol Sci.* 2011; 38: 723-727.
- 2 Lapostolle F, Montois S, Alh riti re A, et al. Dr House, TV, and reality... *Am J Med.* 2013; 126: 171-173.
- 3 Hollywood Health & Society. Research & Evaluations. <https://hollywood-healthandsociety.org/materials/research-evaluations>. Accessed June 26, 2015.
- 4 Dahms K, Sharkova Y, Heitland P, et al. Cobalt intoxication diagnosed with the help of Dr House. *Lancet.* 2014; 383: 574.
- 5 Television Watching Statistics. <http://www.statisticbrain.com/television-watching-statistics/>. Accessed 26 June, 2015.
- 6 Korownyk C, Kolber MR, McCormack J, et al. Televised medical talk shows – what they recommend and the evidence to support their recommendations: a prospective observational study. *BMJ.* 2014; 349: g7346.