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ORIGINAL ARTICLE

Educational program in onco-urology for young urologists: What are their needs?

Formation des jeunes urologues en onco-urologie: quels sont leurs besoins?

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KEYWORDS

Medical education ;
Urology ;

Summary

Purpose. – The emergence of new communication media such as digital contents are progressively replacing more traditional medias in the field of educational programs. Our purpose was to assess urologist in training aspirations regarding urological education.

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Residents ;
E-learning

Methods. – Members of a national urologist in training association were sent an anonymous online questionnaire regarding their medical formation in the field of urology. Responders interested for urological sub-specialty or education support (new tools and traditional support) were evaluated through a 5-point Likert scale.

Results. – Overall, 109 young urologists (26%) responded to the survey. Most of the respondents worked during their training in an academic hospital ($n=89$, 82%). The three favorite tools for training chosen by the responders were: videos, workshop or masterclass, and podcasts (responders very interested were respectively $n=64$ (58.7%), $n=50$ (45.9%), and $n=49$ (45%)). E-mail newsletters were reported as the less useful educational tool by participants ($n=38$, 34.9%). Participants were very interested in improving their surgical skills and their radiological knowledge. Responders who were the most attracted by PCa were much more looking to improve their systemic treatment and radiological knowledges.

Conclusions. – Urologic-oncology was a priority regarding education for urologists in training. A majority of participants expressed a lack in their surgical education, revealing a reduced OR access and underlining utilization of new tools such as simulation. New digital contents such as social media or podcast achieved high interest for the participants, instead of more traditional media. There is a need that educational content evolve and uses new digital media.

Level of evidence. – 3.

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MOTS CLÉS

Formation médicale ;
Onco-urologie ;
Internes ;
E-learning ;
Podcast

Résumé

But. – Dans la formation médicale, les nouveaux médias de communication tels que les contenus numériques se développent très rapidement et tendent à remplacer les médias plus traditionnels. Notre objectif était d'évaluer les aspirations des urologues en matière de formation en onco-urologie.

Matériel. – Les membres de l'Associations française des urologues en formation ont répondu à un questionnaire en ligne anonyme concernant leur formation en onco-urologie. L'intérêt des participants pour les différents moyens de formation ainsi que pour les spécialités d'organes ont été évalués avec une échelle de Likert à 5-points.

Résultats. – Au total, 109 urologues en formation ont répondu à l'enquête (26 %). La plupart ont effectué leur formation exclusivement dans un hôpital universitaire ($n=89$, 82 %). Les trois outils de formation préférés des participants étaient : les supports vidéo, les ateliers ou masterclass, et les podcast (étaient très intéressés respectivement $n=64$ (59 %), $n=50$ (46 %) et $n=49$ (45 %)). Les newsletters ont été considérées comme l'outil éducatif le moins utile ($n=39$, 35 %). Les participants étaient très intéressés par l'amélioration de leurs compétences chirurgicales et de leurs connaissances radiologiques. Les participants qui s'intéressaient le plus au cancer de la prostate cherchaient à consolider leurs connaissances sur les traitements systémiques ainsi qu'en radiologie.

Conclusion. – L'onco-urologie est une priorité pour les urologues en formation. Les nouveaux contenus numériques tels que les réseaux sociaux ou les podcasts ont suscité un grand intérêt chez les participants, supplantant les médias plus traditionnels. Il est nécessaire que le contenu éducatif évolue et se repose sur les nouveaux médias numériques.

Niveau de preuve. – 3.

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Introduction

Educational programs in onco-urology for residents give many interdisciplinary knowledges such as systemic cancer therapy, surgery, brachytherapy, immunology or radiology. Nowadays, educational programs are mainly composed of lectures, practical training and recommendations. However, new educational contents through different media are

now used in order to stay updated in this rapidly evolving field. Thus, traditional face to face lectures are progressively replaced by new digital contents supported by virtual congress, e-learning sessions, social media or smartphone applications. Although e-learning efficiency has already been demonstrated in surgery and in urology, more recent communication tools have not been properly studied yet neither their acceptance among urologists in training [1,2].

Education in surgery relies historically on a senior-to-junior relationship, but residents and program directors may have different perceptions regarding education and resources associated majorly due to an inter-generation gap [3]. For example perceptions of residents' needs differ from faculties regarding operative management [4]. Additionally, with work-hour restrictions for residents, surgery training has been reduced and surgical skills could be overestimated [5–7].

Because of a high workload associated with imbalanced between effort and reward, stressful situations and important fatigue, surgeons in training are at high risk of burn-out [8]. In this context, education and improvement of the residency learning environment have been demonstrated to contribute to surgeons in training wellness [9–11]. In a 2019 national French survey, 25% of the urologists in training suffered from global burn-out and the feeling of being well trained was the only protective factor against burn-out [10]. As a consequence, educational programs should be adapted to the resident's expectations and need.

In order to promote resident's wellness while ensuring the best educational programs, we aimed to assess urologists in training wishes regarding onco-urological education through an online survey.

Methods

Study design

During the 1st trimester of 2020, each member of the French association of young urologists (AFUF) including residents and clinical fellows were invited to answer an online survey regarding their medical formation in the field of Urology. The survey was designed by the AFUF members (BP, XM, LF, UP), and then was anonymously accessible online through Google Form© and sought to assess young urologists' education. The survey was approved by the AFUF board and each participant have given their consent for data analysis.

The survey was composed of 19 items among which three were demographic questions (living location, working in general or academic hospital, wished future practice) and 16 were about medical education. Responders interest for urological sub-specialty or education support were evaluated through a 5-point Likert scale (1 = not interested at all to 5 = very interested).

Statistical analysis

Quantitative variables were expressed as median and inter-quartile range [IQR] and qualitative variables as absolute numbers and percentage.

Analyses were performed using R version 3.6.2. (2009–2019 RStudio, Inc.) and the figures were made with Excel Stat.

Results

Among the 420 members of the association, a total of 109 young urologists (26%) responded to the survey. Of them, 56 (51.4%) were willing to validate an oncological degree especially for the management and use of systemic drugs. Most of the respondents worked during their training in an academic hospital ($n=89$, 82%) (Fig. 1 and 2). After their training, 42 responders would like to work in private practice (38.5%), 41 in an academic hospital (37.6%), 20 in a general hospital (18.3%), 4 (3.7%) were not decided yet and 2 (1.8%) in a hospital specialized in the field of oncology only.

Among the field of oncology, responders were more attracted by the oncological management of renal cell carcinoma (RCC) compared to bladder cancer (BCa), prostate cancer (PCa) and testicular cancer (TCa) (responders ranked > 4/5 respectively $n=61$ (56%), $n=42$ (38.5%), $n=40$ (36.7%), and $n=38$ (34.9%)) (Fig. 3).

Overall, considering the domains of interest to improve, 85% were very interested to improve their surgical knowledge, almost two third (61%) wanted to improve their

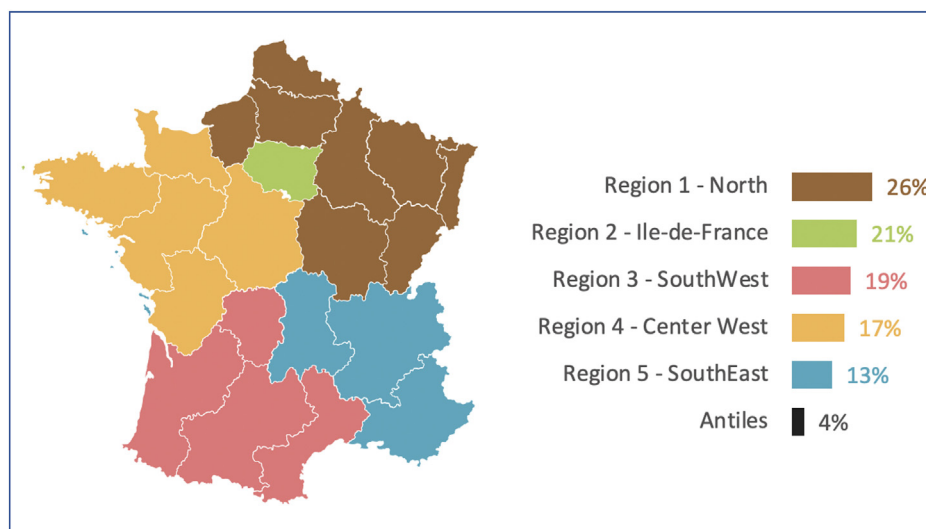


Figure 1. Geographic repartition among responders. This map of France, evidence that most of the responders lived in the north of France ($n=50$, 46%). Moreover, there was a homogenous repartition of responses in France.

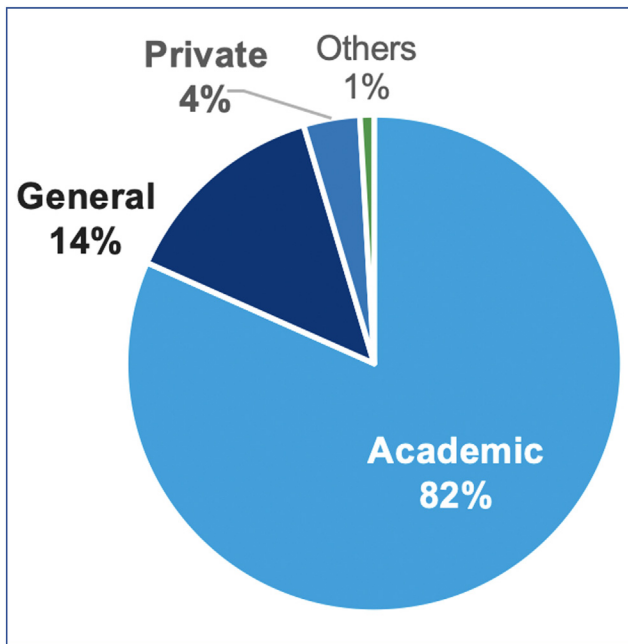


Figure 2. Working activity repartition among responders. In this study, the majority of the participants worked in an academic hospital ($n = 89$, 82%) while little worked as private practice. These trends are explained because of a majority of resident’s participation.

radiological skills, 22% were specially focused on developing their knowledge in terms of systemic treatment but only 10% in brachytherapy.

The three favorite tools for training chosen by the responders were: videos, workshop or masterclass, and podcasts (respectively $n = 64$ (58.7%), $n = 50$ (45.9%), and $n = 49$ (45%)) (Fig. 4). E-mail newsletters were reported as the least useful educational tool by participants: 38 (34.9%) defined it as “not interested at all” to “medium interest”. Moreover, the three preferred information sources were

scientific literature, scientific congress and recommendations from scientific societies (respectively $n = 93$ (85.3%), $n = 77$ (70.6%) and $n = 69$ (63.3%)). Only four young urologists (3.7%) inquired with the pharmaceutical industry and 20 (18.3%) with the health authority.

Overall, 92 participants (85%) were very interested in improving their surgical skills and 66 (61%) their radiological knowledge. Responders who were the most attracted by PCa were much more looking to improve their systemic treatment and radiological knowledges (respectively mean (SD) Likert scale 4.1 (0.9) and 4.6 (0.7)) (Table 1).

Discussion

We reported urologists in training habits and expectation regarding medical education in the field of onco-urology. A majority of participants were interested in oncology especially in RCC, they mostly expressed a need of digital content to improve educational programs. Moreover, despite a theoretical daily surgical training with senior surgeons in academic hospitals, they were still very interested in perfecting their surgical skills.

Interestingly, in addition to the widely used classical formats (lectures, books), social media, e-learning, podcasts or other interactive formats are now including educational content. This is confirmed in our study where videos and Podcasts were considered as the favorite media for training. Evolution and advances in the personal-use technological devices and social networks were the trigger that enhanced digital education supports [12]. Social media improve medical knowledge through open access educational support and through a facilitated collaboration for professional development [13]. Social media also allow a “live” public exchange of ideas between practitioners worldwide contrasting with the traditional and confidential peer-reviewed publications. Social networks are a showcase for scientific publications or for congress live broadcasting with an infinite potential

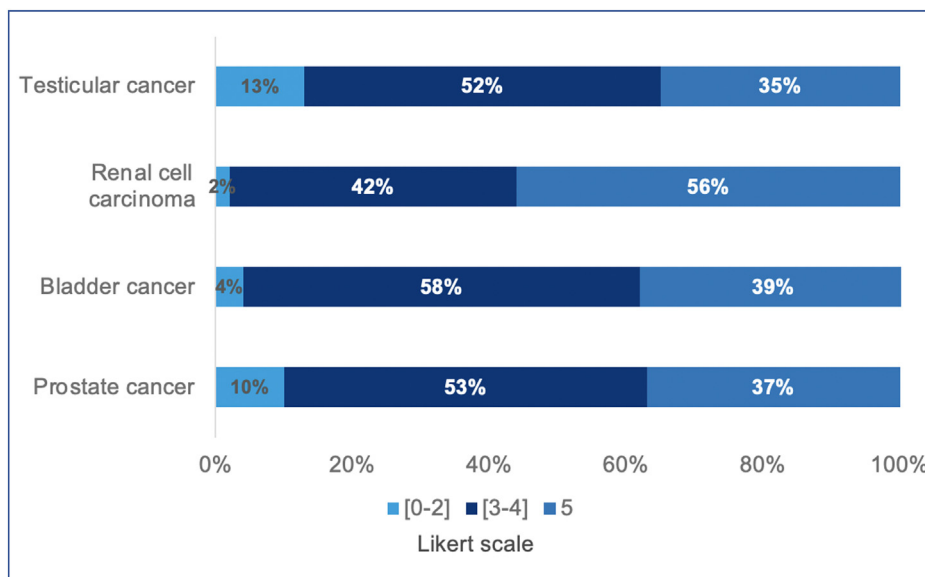


Figure 3. Repartition of organ interest among responders. Responders were more attracted to oncological renal disease compared to bladder, prostate and testis disease (responders ranked $> 4/5$ respectively $n = 61$ (56%), $n = 42$ (38.5%), $n = 40$ (36.7%), and $n = 38$ (34.9%)).

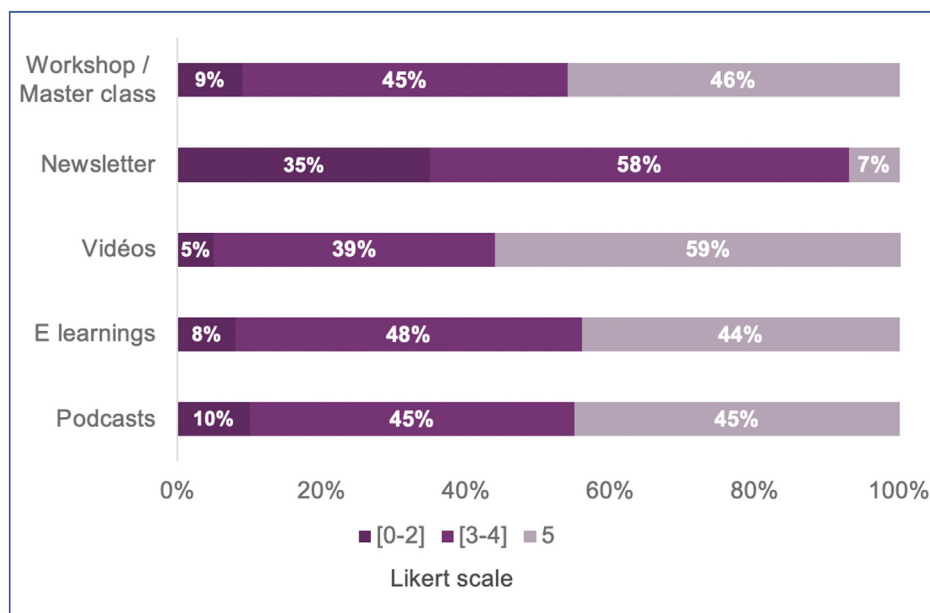


Figure 4. Preferred informative media among responders. Among the responders, the 3 best tools for education were videos, workshop or masterclass, and podcasts (responders very interested were respectively $n = 64$ (58.7%), $n = 50$ (45.9%), and $n = 49$ (45%)).

Table 1 Media and skill enhancement evaluation regarding specific organ disease.

	Prostate ($n = 40$)	Kidney ($n = 61$)	Bladder ($n = 42$)	Testis ($n = 38$)
Preferred media (mean, (SD))				
Video	4.3 (1)	4.4 (0.9)	4.5 (0.9)	4.6 (0.9)
E-learning	4.2 (1.1)	4.1 (1.1)	4.2 (1.1)	4.2 (1.2)
Podcasts	4.2 (1.1)	4.2 (1.1)	4.2 (1.3)	4.1 (1.4)
Masterclass	4.1 (1.1)	4.3 (1)	4.1 (1.1)	4.1 (1.1)
Newsletter	2.9 (1.3)	3 (1.3)	3 (1.3)	2.8 (1.3)
Skills enhancement (mean, (SD))				
Radiology	4.6 (0.7)	4.5 (0.7)	4.5 (0.9)	4.5 (0.7)
Surgery	4.9 (0.5)	4.8 (0.6)	4.8 (0.6)	4.9 (0.5)
Brachytherapy	3.2 (1.2)	2.9 (1.3)	2.8 (1.5)	2.5 (1.4)
Systemic treatment	4.1 (0.9)	3.8 (1)	3.8 (1.1)	3.3 (1.3)

worldwide withspread [14]. Finally, access to a rapid, global and public information exchange through social media could also lead to ethical misconduct that users should avoid with the help of guidelines [15].

We highlighted that a very few participants used pharmaceutical industry as an educational information source (3.7%). Previous studies evidenced a high level of frequent interaction between industry and practitioner during their residency [16,17]. This result could show a lack of confidence towards pharmaceutical industry. Indeed, Schneider et al. demonstrated that residents perception regarding industry gifts and interactions changed during their training and was considered inappropriate [18]. Moreover, educational workshop alone provided by industry was not sufficient to improve resident's perception proving a need for a consistent institutional policy. This result could also reflect the anti-industry mindset implemented over the last ten years and enhanced by law prohibiting any advantages for residents [19].

In our study, a majority of participants expressed the will to enhance surgical skills. Previous surveys among residents are consistent with our findings by evidencing the lack of practical education in urology [20]. These results seem in contradiction with the surgical formation itself and brings to light a gap in the education. Indeed, in a multidisciplinary specialty such as urology, theoretical education tends to be time consuming and reduces OR access. Moreover, recent policies in many countries regulate residents working hours and results to a decreasing surgical hour. New treatment modalities which include more often neoadjuvant therapies or multimodal therapies with brachytherapy or emerging therapies such as immunotherapy also led to reduce surgical indications in onco-urology.

Simulation platforms for robotics, endoscopic and laparoscopic training are emerging and provide content [21,22]. However, validation level differs between simulators and proper evaluation will be needed for each device [23,24].

We also evidenced that more than 50% of the responders expressed the will to improve their radiological skills, especially for those who were more interested in PCa. This trend could reflect that young urologists are willing to deepen their radiological knowledge and to read these exams more accurately. At the time of targeted prostate biopsies that require advanced radiological expertise, our finding may be evidence a collective need to gain greater autonomy with prostate MRI.

This study has several limitations. First, the response rate was low limiting the interpretation and generalisability of our results regarding our descriptive aims. Second, surveys have inherent limitations related to the biases that may affect self-report. Confidentiality and the use of validated scales should minimise this possible bias. This survey has been proposed just before the COVID-19 crisis which forced everyone to quickly adopt the use of digital media content to pursue the medical education of young colleagues. Therefore, it will be very interesting in a near future, to see how this crisis has changed the point of view of trainees and the new trends in terms of educational program content. In order to answer to this question a new dedicated survey will be sent once the corona crisis ended.

Conclusion

Among urologists in training, urologic-oncology is a priority regarding education. Most of them expressed the necessity to deepen their surgical competences, revealing a reduced OR access and underlining utilization of new tools such as simulation. Finally, digital contents such as social media or podcasts achieved high interests for urologists in training establishing the imperative need to develop these tools to improve medical education.

Disclosure of interest

The authors declare that they have no competing interest.

Références

[1] Parker-Autry CY, Shen E, Nance A, Butler T, Covarrubias JB, Varner RE, et al. Validation and testing of an e-learning module teaching core urinary incontinence objectives in a randomized controlled trial. *Female Pelvic Med Reconstr Surg* 2019;25:188–92, <http://dx.doi.org/10.1097/SPV.0000000000000695>.

[2] Jayakumar N, Brunckhorst O, Dasgupta P, Khan MS, Ahmed K. E-learning in surgical education: a systematic review. *J Surg Educ* 2015;72:1145–57, <http://dx.doi.org/10.1016/j.jsurg.2015.05.008>.

[3] Okhunov Z, Safiullah S, Patel R, Juncal S, Garland H, Khajeh NR, et al. Evaluation of urology residency training and perceived resident abilities in the United States. *J Surg Educ* 2019;76:936–48, <http://dx.doi.org/10.1016/j.jsurg.2019.02.002>.

[4] Pugh CM, DaRosa DA, Glenn D, Bell RH. A comparison of faculty and resident perception of resident learning needs in the operating room. *J Surg Educ* 2007;64:250–5, <http://dx.doi.org/10.1016/j.jsurg.2007.07.007>.

[5] Mitchell RE, Clark PE, Scarpero HM. Assessing the surgical skills of urology residents after preurology general surgery training: the surgical skills learning needs of new urology residents. *J Surg Educ* 2011;68:341–6, <http://dx.doi.org/10.1016/j.jsurg.2011.05.001>.

[6] Birch DW, Mavis B. A needs assessment study of undergraduate surgical education. *Can J Surg* 2006;49:335–40.

[7] Carrion DM, Rodriguez-Socarrás ME, Mantica G, Esperto F, Cebulla A, Duijvesz D, et al. Current status of urology surgical training in Europe: an ESRU-ESU-ESUT collaborative study. *World J Urol* 2020;38:239–46, <http://dx.doi.org/10.1007/s00345-019-02763-1>.

[8] Rodrigues H, Cobucci R, Oliveira A, Cabral JV, Medeiros L, Gurgel K, et al. Burnout syndrome among medical residents: a systematic review and meta-analysis. *PLoS ONE* 2018;13:e0206840, <http://dx.doi.org/10.1371/journal.pone.0206840>.

[9] Jennings ML, Slavin SJ. Resident wellness matters: optimizing resident education and wellness through the learning environment. *Acad Med* 2015;90:1246–50, <http://dx.doi.org/10.1097/ACM.0000000000000842>.

[10] Gas J, Bart S, Michel P, Peyronnet B, Bergerat S, Olivier J, et al. Prevalence of and predictive factors for burnout among french urologists in training. *Eur Urol* 2019;75:702–3, <http://dx.doi.org/10.1016/j.eururo.2018.12.037>.

[11] Marchalik D, Goldman C, Carvalho FL, Talso M, Lynch HJ, Esperto F. Resident burnout in USA and European urology residents: an international concern. *BJU Int* 2019;124:349–56, <http://dx.doi.org/10.1111/bju.14774>.

[12] Curran V, Matthews L, Fleet L, Simmons K, Gustafson DL, Wetsch L. A review of digital, social, and mobile technologies in health professional education. *J Contin Educ Health Prof* 2017;37:195–206, <http://dx.doi.org/10.1097/CEH.000000000000168>.

[13] Cheston CC, Flickinger TE, Chisolm MS. Social media use in medical education: a systematic review. *Acad Med* 2013;88:893–901, <http://dx.doi.org/10.1097/ACM.0b013e31828ffc23>.

[14] Djuricich AM. Social media, evidence-based tweeting, and JCEHP. *J Contin Educ Health Prof* 2014;34:202–4, <http://dx.doi.org/10.1002/chp.21250>.

[15] Borgmann H, Cooperberg M, Murphy D, Loeb S, N'Dow J, Ribal MJ, et al. Online professionalism-2018 update of european association of urology (@Uroweb) recommendations on the appropriate use of social media. *Eur Urol* 2018;74:644–50, <http://dx.doi.org/10.1016/j.eururo.2018.08.022>.

[16] Montastruc F, Moulis G, Palmaro A, Gardette V, Durrieu G, Montastruc J-L. Interactions between medical residents and drug companies: a national survey after the Mediator® affair. *PLoS ONE* 2014;9:e104828, <http://dx.doi.org/10.1371/journal.pone.0104828>.

[17] González-Rubio R, Escortell-Mayor E, Del Cura González I. The pharmaceutical industry and specialised medical training: residents' perceptions in Madrid, Spain. *Gac Sanit* 2019;33:112–8, <http://dx.doi.org/10.1016/j.gaceta.2017.07.015>.

[18] Schneider JA, Arora V, Kasza K, Van Harrison R, Humphrey H. Residents' perceptions over time of pharmaceutical industry interactions and gifts and the effect of an educational intervention. *Acad Med* 2006;81:595–602, <http://dx.doi.org/10.1097/01.ACM.0000232408.12648.5a>.

[19] Décret n° 2020-730 du 15 juin 2020 relatif aux avantages offerts par les personnes fabriquant ou commercialisant des produits ou des prestations de santé; 2020.

[20] Sarikaya S. Needs, realities and expectations for urology training: questionnaire-based study. *Arch Esp Urol* 2018;71:18–22.

[21] Childs BS, Manganiello MD, Korets R. Novel education and simulation tools in urologic training. *Curr Urol Rep* 2019;20:81, <http://dx.doi.org/10.1007/s11934-019-0947-8>.

- [22] Rashid P, Gianduzzo TRJ. Urology technical and non-technical skills development: the emerging role of simulation. *BJU Int* 2016;117:9–16, <http://dx.doi.org/10.1111/bju.13259>.
- [23] Aydin A, Raison N, Khan MS, Dasgupta P, Ahmed K. Simulation-based training and assessment in urological surgery. *Nat Rev Urol* 2016;13:503–19, <http://dx.doi.org/10.1038/nrurol.2016.147>.
- [24] Fiard G, Descotes J-L, Troccaz J. Simulation-based training in urology: a systematic literature review. *Prog Urol* 2019;29:295–311, <http://dx.doi.org/10.1016/j.purol.2019.03.003>.