

CONFERENCE ABSTRACTS

# FIP VIRTUAL 2020

## Pharmaceutical Practice: Health & Medicines Information

### Awareness and knowledge of chronic kidney disease among the Lebanese community: A cross-sectional study

Samar N. Younes\*, Mohamad Rahal, Nisreen Mourad

School of Pharmacy, Lebanese International University, Bekaa, Lebanon

**Background:** The global burden of chronic kidney disease (CKD) is rising significantly and is associated with substantial morbidity and mortality. Despite this, proper public awareness and education on CKD is limited (GBD 2013 Mortality and Causes of Death Collaborators, 2015; Global Burden of Disease Study 2013 Collaborators, 2015).

**Purpose:** To assess the level of awareness and knowledge of the Lebanese population towards CKD in a community setting.

**Method:** A cross-sectional study was conducted among the Lebanese general population between July and September 2019. Adult patients or customers (aged  $\geq 18$  years old) presenting to community pharmacies were included after explaining the study protocol and obtaining their informed consent. A pre-designed questionnaire was used to collect information on participants' demographics and their knowledge about CKD and its management. Data were analysed using SPSS version 22.0.

**Results:** A total of 1,308 participants completed the questionnaire. Their mean age was 37.15 with 55.4% being females. Out of them, 325 (24.8%) had hypertension, 209 (16%) had diabetes mellitus, and 121 (9.3%) had CKD, with 33.7% had never tested for their renal function. Hypertension and diabetes mellitus were identified as risk factors for CKD in 75.8% and 57% of the participants, respectively. As for the leading cause of death in CKD patients, 49.5% believed that it is due to kidney disease itself, while less than half (46.3%) assumed to be heart disease. Results revealed that 78.3% of participants knew that CKD can be treated by dialysis, 64.1% by transplantation, and 61.2% by drugs.

**Conclusion:** Lebanese population's general knowledge about CKD is unsatisfactory. Future efforts should be implemented on improving health education and awareness on CKD, its risk factors and preventative strategies.

#### References

GBD 2013 Mortality and Causes of Death Collaborators. (2015). Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the global burden of disease study 2013. *The Lancet*, **385**(9963), 117–71. [https://doi.org/10.1016/S0140-6736\(14\)61682-2](https://doi.org/10.1016/S0140-6736(14)61682-2)

Global Burden of Disease Study 2013 Collaborators. (2015). Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990–2013: a systematic analysis for the global burden of disease study 2013. *The Lancet*. **386**(9995), 743–800. [https://doi.org/10.1016/S0140-6736\(15\)60692-4](https://doi.org/10.1016/S0140-6736(15)60692-4)

### Evaluating available pharmacist-recommended medicines for paediatric patients

Chiara Baldacchino, Maresca Attard Pizzuto, Lilian M. Azzopardi\*

Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Malta

**Background:** Availability and scientific data for products that may be recommended by pharmacists upon presentation of symptoms for paediatric patients varies.

\* = Presenting Author

**Purpose:** To identify products, available for paediatrics, which are pharmacist-recommended, and to assess scientific evidence on safety and efficacy of these products.

**Method:** Scenario analysis was carried out by reviewing all the SPCs of non-prescription medications available on the Malta Medicines Authority website having a marketing authorisation for the market under study. The age range used for this study was that of neonates up to 12 years. The product's safety was assessed by reviewing pharmacodynamic and pharmacokinetic properties. Medicinal products available and their intended use, information on the safety and efficacy data for the products were also identified.

**Results:** A total of 163 medicinal products, contributing to 196 formulations are available on the Maltese market for paediatric use as non-prescription medicines. Cough and cold preparations (n=21) are the most available non-prescription products for paediatric patients. The most common side-effects are those affecting the gastro-intestinal system (n=27). There is a total of 31 products that have no pharmacokinetic data available on the SPC. The pharmacokinetic data that is mostly included is drug elimination data (n=44).

**Conclusion:** This study identifies pharmacist-recommended products, available for paediatric use and the symptomatology they cover. Details on pharmacokinetic and pharmacodynamic data on these products are weak.

### Meeting educational needs of pharmaceutical stakeholders: Veterinary medicine

Jimenrose Borra, Maresca Attard Pizzuto, Lilian M. Azzopardi, Anthony Serracino-Inglott<sup>1\*</sup>

*Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Malta*

**Background:** Continuing Professional Development (CPD) is critical for veterinary professionals to be updated with new techniques, research and trends whilst meeting both personal and professional goals. Pharmaceutical stakeholders in this study refer to veterinary surgeons, domestic pet and farm animal owners and the veterinary team, including veterinary nurses, veterinary technicians and veterinary assistants.

**Purpose:** To address educational needs of the veterinary team by providing short courses locally.

**Method:** The study was divided into two phases. Phase one consisted of a systematic literature search of peer-reviewed articles published from 2005 to 2020. The syllabus of four different academic institutions were reviewed and a common topic from each institution was chosen. Phase two involved the development and validation of a questionnaire entitled, 'Questionnaire for Veterinary Stakeholders' (QVS) aimed to identify the educational

needs of the veterinary team and was disseminated to different stakeholders. An expert panel validated the questionnaire.

**Results:** The content of the short courses drawn up from topics common to the academic institutions studied included veterinary pharmacology, regulation of veterinary medicinal products and veterinary anatomy and physiology. QVS has four sections: Section A demographics, Section B determines perception of stakeholders towards conducting short courses, Section C assesses the relevance of the topics, and Section D is aimed at the veterinary team to discuss the organisation of the short courses.

**Conclusion:** The questionnaire investigates needs to conduct CPD for the veterinary team.

### Activities of the Drug Information Centre of the Portuguese Pharmaceutical Society: 1984-2020

Aurora Simón<sup>1</sup>, Jorge P. Batista<sup>2\*</sup>, Carla Torre<sup>3</sup>, Ana Paula Mendes<sup>1</sup>

<sup>1</sup>*Drug Information Centre, Ordem dos Farmacêuticos (Portuguese Pharmaceutical Society), Lisboa, Portugal*

<sup>2</sup>*International Affairs, Ordem dos Farmacêuticos (Portuguese Pharmaceutical Society), Lisboa, Portugal*

<sup>3</sup>*Secretary General, Ordem dos Farmacêuticos (Portuguese Pharmaceutical Society), Lisboa, Portugal*

**Background:** The Centro de Informação do Medicamento (CIM) is the Drug Information Centre of the Portuguese Pharmaceutical Society (PPS). It was created in 1984, with the purpose of providing objective and independent information about medicines to Portuguese pharmacists.

**Purpose:** To perform a retrospective and descriptive study of the activities developed by CIM over the last 36 years.

**Method:** The details of the requests registered in a database programme were analysed. Specific analysis was conducted for the period: May 2017 to April 2020. The active information activities and all other additional activities are also described.

**Results:** Since May 1984 until April 2020 CIM has received 45,598 inquiries. From the 1889 requests received between May 2017 and April 2020, the following parameters were analysed: category of the requests, pharmacists' professional activity, time required to elaborate the response, response communication channel and response communication time frame. Most of the requests came from community (41.0%) and hospital (33.1%) pharmacists, and 88.5% were answered within 24 hours, mostly by email (68.6%).

Active information is accomplished by editing a Bulletin and producing articles and documents, regarding pharmacotherapy and professional practice, published on the PPS website. The

Centre also participates in educational activities and collaborates in internal and external projects.

**Conclusion:** CIM's current activities are the culmination and evolution of those initiated 36 years ago. The development of new activities tries to keep up with the technological changes and the evolving needs and expectations of pharmacists. CIM will continue to support Portuguese pharmacists' everyday practice.

### Exercise intervention time in meta-analysis of exercise for type 2 diabetes mellitus

Chen-Huei Lin<sup>1,2\*</sup>, Tian-Lu Ke<sup>3</sup>

<sup>1</sup>Recreation and Sports Management, University of Taipei, Taipei City, China Taiwan

<sup>2</sup>Department of pharmacy, Landseed international hospital, Taoyuan City, China Taiwan

<sup>3</sup>Institute of Sports Pedagogy, University of Taipei, Taipei city, China Taiwan

**Background:** Type 2 diabetes is one of the major diseases around the world; exercise can improve a patient's blood glucose management.

**Purpose:** To find exercise intervention times and calculate their effects on blood glucose.

**Method:** The keywords 'type 2 diabetes mellitus', 'exercise' and 'randomised controlled trial' were used to search electronic databases, such as Cochrane Library and ProQuest. After screening, there were 19 empirical research documents that met the requirements. Of the 19 articles, eight of them were found to have blood glucose as dependent variables. Next comprehensive meta-analysis (CMA) software was used to calculate the mean effect size.

**Results:** Taking 12 weeks as the document classification interval. The mean effect size for less than 12 weeks was -0.259; the mean effect size for more than 12 weeks was -1.350.

**Conclusion:** Exercise intervention time for blood sugar control, less than 12 weeks has a small effect size; more than 12 weeks has a large effect size.

#### References

Cassidy, S., Thoma, C., Hallsworth, K., Parikh, J., Hollingsworth, K.G., Taylor, R., Jakovljevic, D.G., & Trenell, M.I. (2016). High intensity intermittent exercise improves cardiac structure and function and reduces liver fat in patients with type 2 diabetes: a randomised controlled trial. *Diabetologia*, *59*(1), 56-66 <https://doi.org/10.1007/s00125-015-3741-2>

Castro-Sánchez, A.M., Matarán-Peñarrocha, G.A., Feriche-Fernández-Castany, B., Fernández-Sola, C., Sánchez-Labraca, N., & Moreno-Lorenzo, C. (2013). A program of 3 physical therapy modalities improves peripheral arterial disease in diabetes type 2 patients: a randomized controlled trial. *Journal of Cardiovascular Nursing*, *28*(1), 74-82. <https://doi.org/10.1097/JCN.0b013e318239f419>

del Pozo-Cruz, J., Alfonso-Rosa, R.M., Ugia, J.L., McVeigh, J.G., del Pozo-Cruz, B., & Sañudo, B. (2013). A primary care-based randomized controlled trial of 12-week whole-body vibration for balance improvement in type 2 diabetes mellitus. *Archives of physical medicine and rehabilitation*, *94*(11), 2112-2118. <https://doi.org/10.1061.apmr.2013.05.030>

Dixit, S., Maiya, A., & Shastry, B. (2014a). Effect of aerobic exercise on quality of life in population with diabetic peripheral neuropathy in type 2 diabetes: a single blind, randomized controlled trial. *Quality of Life Research*, *23*(5), 1629-1640. <https://doi.org/10.1007/s11136-013-0602-7>

Dixit, S., Maiya, A. G., & Shastry, B. (2014b). Effect of aerobic exercise on peripheral nerve functions of population with diabetic peripheral neuropathy in type 2 diabetes: a single blind, parallel group randomized controlled trial. *Journal of Diabetes and its Complications*, *28*(3), 332-339. <https://doi.org/10.1016/j.diabcomp.2013.12.006>

Dobrosielski, D. A., Gibbs, B. B., Ouyang, P., Bonekamp, S., Clark, J. M., Wang, N.-Y., Silber, H.A., & Stewart, K.J. (2012). Effect of exercise on blood pressure in type 2 diabetes: a randomized controlled trial. *Journal of general internal medicine*, *27*(11), 1453-1459. <https://doi.org/10.1007/s11606-012-2103-8>

Kempf, K., & Martin, S. (2013). Autonomous use of the Exercise Game WiiFit Plus Improves Glucometabolic Control and Quality of Life in Type 2 Diabetes Patients: A Randomized Controlled Trial. Paper presented at the DIABETES.

Lee, S., Pei, D., Chi, M.-J., & Jeng, C. (2015). An investigation and comparison of the effectiveness of different exercise programmes improving glucose metabolism and pancreatic  $\beta$ cell function of type 2 diabetes patients. *International journal of clinical practice*, *69*(10), 1159-1170. <https://doi.org/10.1111/ijcp.12679>

Leehey, D. J., Collins, E., Kramer, H. J., Cooper, C., Butler, J., McBurney, C., Jelinek, C., Reda, D., Edwards, L., Garabedian, A., & O'Connell, S. (2016). Structured exercise in obese diabetic patients with chronic kidney disease: a randomized controlled trial. *American Journal of Nephrology*, *44*(1), 54-62. <https://doi.org/10.1159/000447703>

Mobasser, M., Yavari, A., Najafipour, F., Aliasgarzadeh, A., & Niafar, M. (2015). Effect of a long-term regular physical activity on hypertension and body mass index in type 2 diabetes patients. *The Journal of Sports Medicine and Physical Fitness*, *55*(1-2), 84-90.

Nicolucci, A., Balducci, S., Cardelli, P., Cavallo, S., Fallucca, S., Bazuro, A., Simonelli, P., Iacobini, S., Zanuso, S., & Pugliese, G. (2012). Relationship of exercise volume to improvements of quality of life with supervised exercise training in patients with type 2 diabetes in a randomised controlled trial: the Italian Diabetes and Exercise Study (IDES). *Diabetologia*, *55*(3), 579-588. <https://doi.org/10.1007/s00125-011-2425-9>

Karimi, H., Rehman, S. S. U., & Gillani, S. A. (2017). Effects of Supervised Structured Aerobic Exercise Training Program on Interleukin-6, Nitric Oxide Synthase-1, and Cyclooxygenase-2 in Type 2 Diabetes Mellitus. *Journal of the College of Physicians and Surgeons-Pakistan: JCPSP*, *27*(6), 352-355

Shakil-ur-Rehman, S., Karimi, H., & Gillani, S. A. (2017). Effects of supervised structured aerobic exercise training program on fasting blood glucose level, plasma insulin level, glycemic control, and insulin resistance in type 2 diabetes mellitus. *Pakistan Journal of Medical Sciences*, *33*(3), 576

Shakil-ur-Rehman, S., Karimi, H., & Gillani, S.A. (2017). Effects of supervised structured aerobic exercise training program on high and low density lipoprotein in patients with type II diabetes mellitus. *Pakistan Journal of Medical Sciences*, *33*(1), 96

Sacre, J.W., Jellis, C., Jenkins, C., Stanton, T., Coombes, J.S., & Marwick, T. (2012). Efficacy of exercise training in the treatment of subclinical myocardial disease in type 2 diabetes: A randomized controlled trial. *Journal of the American College of Cardiology*, 61st Annual Scientific Session and Expo of the American-College-of-Cardiology (ACC), Chicago

Sparks, L. M., Johannsen, N. M., Church, T. S., Earnest, C. P., Moonen-Kornips, E., Moro, C., Hesselink, M.K.C., Smith, S.R., & Schrauwen, P. (2013). Nine months of combined training improves ex vivo skeletal muscle metabolism in individuals with type 2 diabetes. *The Journal of Clinical Endocrinology & Metabolism*, *98*(4), 1694-1702. <https://doi.org/10.1210/jc.2012-3874>

Tomas-Carus, P., Ortega-Alonso, A., Pietilainen, K. H., Santos, V., Gonçalves, H., Ramos, J., & Raimundo, A. (2016). A randomized controlled trial on the effects of combined aerobic-resistance exercise on muscle strength and fatigue, glycaemic control and health-related quality of life of type 2 diabetes patients. *The Journal of Sports Medicine and Physical Fitness*, *56*(5), 572-578

Yalamanchi, S., Stewart, K.J., Ji, N., Golden, S.H., & Kalyani, R.R. (2015). Fasting Hyperglycemia Predicts Greater Lean Body Mass Gains after Exercise Training in Persons with Type 2 Diabetes. Paper presented at the DIABETES.

Youngwanichsetha, S., Phumdoung, S., & Ingkathawornwong, T. (2013). The effects of tai chi qigong exercise on plasma glucose levels and health status of postpartum Thai women with type 2 diabetes. *Focus on alternative and complementary therapies*, *18*(4), 182-187

### Medication training and its improvement for the blind and deaf in South Korea

Hyekyung Park<sup>1</sup>, Sunjung Lee<sup>2</sup>, Yoonjung Choi<sup>2\*</sup>, Seungyeon Jung<sup>2</sup>

<sup>1</sup>President, Korea Institute for Pharmaceutical Policy Affairs, Seoul, Republic of Korea

<sup>2</sup>Research Team, Korea Institute for Pharmaceutical Policy Affairs, Seoul, Republic of Korea

**Background:** People with disabilities require tailored medication training contents and methods based on the features of their own disabilities. Pharmacists can play a key role in tackling information asymmetry and secure disabled people's rights to choose appropriate services.

**Purpose:** This study aims to propose improved medication training contents and methods tailored to the blind and deaf by investigating their actual needs and finding existing educational resources.

**Method:** A literature review was conducted to explore current medication training. A 'focus group interview' (FGI) and thematic analysis were implemented to identify demands for medication training. The participants of this FGI were four blind people from the Korea Blind Union and four deaf people from the Gyeonggi-do Association of The Deaf.

**Results:** The Korean Ministry of Food and Drug Safety (MFDS) published educational booklets in 2011, 2012 and 2013. The booklets had voice-codes printed on them to guide the rational use of over the counter medicines for blind people. MFDS also offers sign language videos for the deaf. Thematic analysis shows that the first global theme addresses their needs for disabled-centred technical materials and contents. The second global theme focuses on their craving characteristics of training methods.

**Conclusion:** People with blind and deaf need more disabled-centred medication training in terms of methods and contents. Pharmacists should comprehend the disabled to offer practical service and information. Meeting the needs of the disabled can enable them to take medications accurately and promote their health outcomes.

### References

Final Report: 2019 education project for the safe use of medicines, Ministry of Food and Drug Safety, 2019 [in Korean]

### Actions of the medicines information centre in the COVID-19 crisis

Antonio Blanes Jiménez, Tamara Dorado Romero, Cristina Fernández Marcos\*, Carlos Fernández Moriano, Paula Mateos Sánchez, Irene Suárez Antuña

General Pharmaceutical Council of Spain, Madrid, Spain

**Background:** The pandemic of coronavirus disease 2019 has led to a health crisis situation in which all healthcare sector have set up information mechanisms aimed at their own professionals, as well as the population. Among them, the General Pharmaceutical Council of Spain has carried out different actions to improve knowledge of the pandemic.

**Purpose:** Ensuring that the General Council conveys the information to pharmacists, other health professionals and patients.

**Method:** The General Council has set up a specific information centre on COVID-19, aimed at centralising the information activities carried out in this area, such as direct resolution of queries from professionals and the general public, publication of technical reports, creation of an information website, issuance of official communications or production of information videos.

**Results:** Since the outbreak of the crisis, a total of 198 queries have been received; 35% were from Provincial Pharmacists' Chambers, 51% from pharmacists, and 14% from other professionals and citizens. The most consulted topics were about prevention of contagion through hydroalcoholic solutions, use of masks and action procedure in community pharmacy.

**Conclusion:** The General Council has positioned itself as an information reference for this health crisis management. The implementation of a landline for telephone queries and real concerns allowed the information issued to be tailored to the demands of health professionals and citizens.

### Health information dissemination to the population: YouTube channel #Yourpharmacistreports

Ivan Espada Ibañez, Carlos Fernández Moriano\*, Teodomiro Hidalgo Sotelo, Carlos Jardón Vasallo, Tomas Muret Ramón, Cristina Tiemblo Ferreté

*General Pharmaceutical Council of Spain, Madrid, Spain*

**Background:** The general population is showing increasing interest in health issues, hence the internet serves as a fast and convenient information channel. However, this information is not always good in terms of quality, and there are many hoaxes. The General Pharmaceutical Council of Spain has therefore decided to develop its own channel on YouTube to disseminate evidence-based and reliable information on medicines and diseases.

**Purpose:** Developing a YouTube channel to provide health information to both pharmaceutical professionals and patients, on an independent and reliable basis.

**Method:** The General Council has created the channel #YourPharmacistReports (#TuFarmaceuticoInforma), where videos on the rational use of medicines, healthy lifestyles, information on diseases, and health advice are regularly posted. The videos are produced by pharmacists, in collaboration with a journalist specialising in social networks and communication with the public.

**Results:** Since it was launched in October 2016, a total of 184 videos have been published, reaching over 14 million views, with an average of 7,300 per day. The most watched video is on metformin, with a total of 1.6 million views. The channel accounts for more than 77,000 subscribers and more than 16,000 likes.

**Conclusion:** New technologies, such as YouTube, are an important way of transmitting health information, provided that this information comes from a reliable source. The channel #YourPharmacistReports received an overwhelming response by both patients and pharmacists.

### Medicines and food supplements: Screening interactions

Antonio Blanes Jiménez, Tamara Dorado Romero\*, Ivan Espada Ibañez, Cristina Fernández Marcos, Carlos Fernández Moriano, Paula Mateos Sánchez, Irene Suárez Antuña

*General Pharmaceutical Council of Spain, Madrid, Spain*

**Background:** Combined use of food supplements with medication may create a risk of medicine interaction. There are several patients undergoing chronic treatments who rely on the use of food supplements without knowing the negative side effects it could have on the effectiveness of their medication or on their own health, since most of these products do not reflect the potential appearance of this type of interaction.

**Purpose:** To provide new information in this area, as well as to provide the pharmaceutical professional with the necessary information through the BOT PLUS database.

**Method:** A codification of the existing interactions between medicines and food supplements has been carried out in BOT PLUS, the database of the General Pharmaceutical Council of Spain, in which the consequence of the interactions are reported (decrease of the effect, appearance of toxicity, etc.), its clinical importance (from slight to potentially serious), and the recommendation of measures to take (such as avoiding the combination, monitoring the patient or distancing the administration).

**Results:** To date, a total of 1,670 interactions have been coded, corresponding to 147 ingredients present in food supplements. Some 25% of them have been classified as potentially serious and it is recommended to avoid their association.

**Conclusion:** The resulting data reflects the importance of these interactions being codified and available to health professionals in order to avoid possible negative side effects on the patient.

### Food allergies and intolerance prevention

Antonio Blanes Jiménez, Támara Dorado Romero, Cristina Fernández Marcos, Paula Mateos Sánchez\*, Irene Suárez Antuña

*General Pharmaceutical Council of Spain, Madrid, Spain*

**Background:** BOT PLUS, the medicines database developed by the General Pharmaceutical Council of Spain, collects information on the composition of medicines approved by the AEMPS, including both active substances and excipients used in its compounding.

**Purpose:** To analyse the percentage of available medicines in community pharmacies containing excipients, as well as the importance of their knowledge and of being provided with search tools to find presentations that do not contain any specific excipient.

**Method:** The excipient information has been coded in BOT PLUS by reviewing the information available in the data sheet. This coding allows later searching for presentations without a specific excipient.



**Results:** Seventy-one percent (71%) of dispensable community pharmacy presentations contain at least one notifiable excipient (make up 79% of oral presentations). The most common excipient is lactose (46% of presentations). Furthermore, patients with hereditary fructose intolerance (HFI) or Glucose-galactose malabsorption would present problems with 15% of these presentations, as they contain some sugar in their composition.

**Conclusion:** According to the findings obtained in this analysis, it is important to know the allergies and intolerances of the patients at the time of dispensing, as well as to have specific search tools to be able to prevent a specific excipient when dispensing the medication to these patients.

### Global terminology related to professional development in the Armenian context

Hrant Danagulyan\*, Ruzanna Kamalyan, Araks Petrosyan

*Pharmprogress Armenian Pharmacists Association, Yerevan, Armenia*

**Background:** Aligning national nomenclature with the global professional glossary is a prerequisite for country-level transformation of the pharmaceutical workforce (FIP, 2015).

**Purpose:** This study benchmarks global definitions with terminology in Armenia's practice and professional development.

**Method:** Content analysis (FIP documents, Armenian legislation and educational frameworks), classification, and conceptual matching.

**Results:** In Armenia, the terms 'specialisation' and 'advanced practice' lack elements of vertical advancement proposed in the Global Advancement Development Framework (GADF) (FIP, 2019). No formal evidence exists of 'expert professional practice' beyond 'specialisation'. In the Armenian context 'credentialing' (documented professional qualification), stemming from a professional curriculum and continuing professional development (CPD), is not synonymous with 'professional recognition' (endowing formal titles) used in academic, scientific and regulatory sectors. 'Extended practice' may apply to military pharmacists, who must take specialised courses at medical university. 'Privileging' has no formal definition in Armenia, but only pharmaceutical professionals with a master's degree post-internship may manage a pharmacy.

**Conclusion:** Gaps in alignment of Armenian terminology with global professional nomenclature are obstacles to disseminating international best practices, and for consolidating initial education and advanced practice.

### References

FIP. (2015). Advanced Practice and Specialisation in Pharmacy: Global Report 2015. International Pharmaceutical Federation, The Hague: The Netherlands. Available at: <https://www.fip.org/file/1397>

FIP. (2019). Global Advancement Development Framework. Supporting the advancement of the profession. International Pharmaceutical Federation, The Hague: The Netherlands. Available at: <https://www.fip.org/priorityareas-workforce-gadf>

### #FightingCOVID19 (mis)information - the relevance of a communication strategy

Lígia Garcia<sup>1\*</sup>, Catarina Lourenço<sup>1</sup>, Patrícia Fialho<sup>1</sup>, Marisa Duarte, Carolina Gouveia<sup>1</sup>, Clarisse Dias<sup>2</sup>, Carina Machado<sup>3</sup>, Sónia Balasteiro<sup>3</sup>, Patrícia Fernandes<sup>3</sup>, Sónia Queirós<sup>4</sup>

<sup>1</sup>Center for Medicines Information and Health Interventions (CEDIME), Infosaúde, Portugal

<sup>2</sup>Pharmaceutical Compounding Information Centre (CIMPI- LEF), Infosaúde, Portugal

<sup>3</sup>Communication Department, National Association of Pharmacies (ANF), Portugal

<sup>4</sup>Institutional Affairs, National Association of Pharmacies (ANF), Portugal

**Background:** Managing communication during a health crisis is essential to meet the population's needs. Therefore, regarding the COVID-19 outbreak, the National Association of Pharmacies (ANF) developed, since the beginning, a strategy of communication in order to support such needs.

**Purpose:** To support the management and communication of a health crisis.

**Method:** Several documents were developed:

- On January 24th 2020, while there weren't cases in Europe, ANF published a CEDIME Informa (Scientific and Technical Information, headed to the pharmacy team);
- On January 30th 2020, after the first cases were described in Europe, it was released an updated CEDIME Informa and an iSaúde (leaflet addressed to the population), and, the following day, an action flowchart for pharmacies (adapted and translated by FIP into six languages). In February 2020, two new iSaúde and Guidelines were published: 'Preventive Measures' and 'Pharmacy Intervention Towards a Suspected Case';
- On March 4th 2020, after the first case was confirmed in Portugal, a Contingency Plan for pharmacies was released. Since then, six new CEDIME Informa and one iSaúde were released, and it was constantly assured that the population was informed, through digital media.

**Results:** The progressive delivery of accurate information allowed a reality-adjusted response to the pharmacies and population's needs.

**Conclusion:** Crisis management and communication are essential in situations like this outbreak. With a 2,750 pharmacies' network and about 3,517 inhabitants per pharmacy, it is time we question: wouldn't the integration of pharmacies in the health system be a means to ensure timely credible and understandable communication between health authorities and the population?

### Community dialogue: Information to empower communities to access medicines in the public health system

Vanessa Pinheiro Da Silva Fernandes Gervasio\*, Brunna Aparecida Valente Cordeiro, Renato Rodrigues De Figueiredo Cruz, Igor Frederico De Oliveira Ramos, Elorrainy Clen Barcelos Paiva, Danielle Maria De Souza Sério dos Santos, Fernanda Lacerda Da Silva Machado

*Macaé campus, Universidade Federal do Rio de Janeiro (UFRJ), Macaé, Brazil*

**Background:** Access to medicines is a major requirement to achieve universal health coverage. Its multidimensional feature demands strategies and policies to promote collaboration with different sectors and stakeholders. User information is one of those strategies that plays a key role in social participation.

**Purpose:** To report the use of community dialogue to discuss pharmaceutical assistance in the public health system in a Brazilian municipality.

**Method:** Communities dialogues took place at primary health care units and were led by an observer and a facilitator (pharmacy students or a pharmacist) using a pre-structured guide including 13 questions related to the organisation of pharmaceutical assistance. After discussions, a report was made and posteriorly reviewed by all the project members present at the activity. Then, thematic analysis of reports was conducted.

**Results:** Community dialogues were held at 21 health units from October 2018 to October 2019, lasting from 20 to 60 minutes. The number of participants ranged from 5 to 23, reaching 227 persons in total. When asked about the State's responsibility, most of the participants believed that governments should provide all the medicines available for all the diseases. Participants also declared that the low income population should be preferentially assisted. The most frequent complaint was related to drug shortage.

**Conclusion:** Community dialogues were implemented to improve access to information about pharmaceutical assistance

in public health sector. The approach allowed participants to openly express their opinions and contributed to elucidate questions about how to obtain medicines.

### Bringing health promotion and education into school settings – Healthy Generation Project

Laura Moura\*, Tiago Rodrigues, Luís Lourenço

*Portuguese Pharmaceutical Society, Lisbon, Portugal*

**Background:** Educating children on health issues plays an essential role for them to stay healthy later in life. 'Healthy Generation Project' emerged as a public health promotion and education project.

**Purpose:** Evaluate the Project's general impact, through direct assessment of students' knowledge on the addressed topics.

**Method:** The project promotes trainings on 'Diabetes' and the 'Rational Use of Medicines' topics to children aged 10-14 years old. Trainings were held in an especially adapted bus by young pharmacists and Pharm.D. students who were trained by specialists to deliver the referred trainings.

To evaluate the trainings, students were randomly selected to answer a survey on the covered topics. The survey was composed of nine multiple choice questions, with one out of four the correct answer. By the end of the school year, a descriptive analysis was conducted to characterise the level of children knowledge, according to the main variable: with/without training. The number of students, teachers and schools covered was also analysed.

**Results:** Data from the last five years of the project (2014-2019), shows that, on average, the number of correct answers to the survey was higher in the group that had already received training (7 in 9) in comparison to the group without training (5 in 9). The project was evaluated with an average of 18 points (scale from 0 to 20), by the Portuguese professors.

**Conclusion:** Data shows that training sessions have had a positive impact on students' knowledge. Nationwide, since the beginning of the project in 2012, 509 schools had been visited, covering 101,963 students and 4,787 teachers.

### Online education of citizens for health prevention and promotion

Laura Moura\*, Tiago Rodrigues, Luís Lourenço

*Portuguese Pharmaceutical Society, Lisbon, Portugal*

**Background:** The huge flow of information that exists nowadays, makes it essential to have a reliable source of information on health that is easily accessed by communities.

**Purpose:** By making health information accessible to communities, using digital technology, we are guaranteeing that citizens are more capable of making better decisions in order to improve their health and engage with community action on these topics.

**Method:** A massive open online course on Healthcare Security was developed by an inter-professional and interdisciplinary team of the Portuguese Pharmaceutical Society and the Portuguese Directorate-General for Health. It was comprised of six courses, namely, 'Safe and Rational Use of Medicines', 'Hygiene of the hands in the prevention of infections', 'Prevention of Infections and Antibiotic resistance', 'Surgical Safety', 'Prevention of pressure ulcers' and 'Prevention of the occurrence of falls'.

The courses were available on the Online Learning National Platform (Platform Project NAU, a national initiative held by the Foundation for Science and Technology), which can be accessed for free. Courses were made available one at a time, whereby, until the end of the 2019, only three courses were published. The remaining three courses are expected to be launched during the year of 2020.

**Results:** Since the launch of the health literacy programme in June 2019, the three available courses had on average, 2,700 registrations per course and a conclusion rate of 72%.

**Conclusion:** The literacy programme on Healthcare Safety has produced great results in terms of both registrations and conclusion rates which contributes to more and better-informed citizens.

### Evolution of sun-protection habits in the Balearic population over the last decade

Tomas Muret Ramon<sup>1\*</sup>, Emma Suarez Mazaira<sup>2</sup>, Francisca M Santandreu Jaume<sup>2</sup>, Rosa M Garcia Ferrer<sup>2</sup>, Gema Molinero Hueso<sup>2</sup>

<sup>1</sup>*Member of Dermopharmacy, Spain*

<sup>2</sup>*Medication Information Center, Col·legi Oficial de Farmacèutics de les Illes Balears, Palma de Mallorca, Spain*

**Background:** Pharmacists play a relevant role in the promotion of health in the population and in health education; in the field of sun-protection it is essential to avoid the risks associated with uncontrolled exposure to reduce skin damage in both the short- and long term.

**Purpose:** The aim of this study was to analyse the evolution of sun-protection habits and compliance with pharmaceutical recommendations among the population of the Balearic Islands over the last decade.

**Method:** From May 2010 to May 2019, 5,680 people were surveyed. Their sun-protection habits were assessed through self-designed surveys, and skin pigmentation determinations were carried out using a Skintone Pen TP 20 probe from Microcaya. User data were included from the islands of Mallorca, Menorca, Ibiza, and Formentera.

**Results:** Most respondents were women (75.0%±1.25%) between 20 and 30 years old (19.1%±2.30%). An analysis of the results indicated that the chemist is the place they trust the most for the purchase of sunscreens. The preferred pharmaceutical forms were emulsions and sprays. As for skin care measures after sun exposure, 59.6%±1.70% of users used after-sun moisturising products. These trends did not change significantly over the ten years of the study. However, the data did reveal a significant rise in the use of very high sun protection factors (50+) in the last six years.

**Conclusion:** Health education in sun-protection continues to be necessary as only 4/10 users who need it use SPF 30, and only 1/2 users needing SPF 50+ use it correctly.

### Systematic reviews about medicinal cannabis dosage forms

Ceren Bereketoglu, Nicolette Sammut Bartolo, Anthony Serracino-Inglo<sup>1\*</sup>

*Department of Pharmacy, University of Malta, Msida, Malta*

**Background:** Studies about cannabis dosage forms, with the inclusion of perspectives of users, lead to understanding of medicinal cannabis better.

**Purpose:** To review studies focusing on medicinal cannabis dosage forms.

**Method:** A comprehensive systematic review was conducted between February and March 2020, to identify studies published in the last ten years about medicinal cannabis dosage forms and opinions of medicinal cannabis users about cannabis dosage forms. HyDi, a tool offered by the University of Malta with access to different databases, was used for the search.



**Results:** Eighty-nine (89) articles were related to medicinal cannabis dosage forms and ten articles were based on opinions. Majority of the studies (n=97) were performed in a single country, more than half (n=61) in the US. Participants were cannabis recreational users (n=66), healthy volunteers (n=20) or medicinal cannabis users (n=13). Studies included one administration form (n=62) of cannabis mainly the smoked form (n=31), followed by the oral form (n=12). Some studies compared two forms (n=23) such as smoked versus vaped or oral, edible, oral versus oro-mucosal. Studies with multiple dosage forms (n=14) involved variety of forms including smoked, vaped, inhaled, oral, sublingual, edible, rectal and systemic forms. Scope in the studies were pharmacodynamics (n=41), pharmacokinetics (n=32), use patterns and opinions on medicinal cannabis dosage forms (n=26).

**Conclusion:** Various studies were conducted about medicinal cannabis dosage forms. There is still need for more studies related to patient perception.

### Analysis of patient drug usage trends in the Pharmacy of your Choice scheme

John Bryan G. Ruba, Louise Grech, Anthony Serracino Inglott<sup>1\*</sup>

*Department of Pharmacy, Faculty of Medicine and Surgery, University Of Malta, Msida, Malta*

**Background:** The 'Pharmacy of your Choice' (POYC) scheme is a national pharmaceutical service in Malta which provides free medicines and pharmaceutical devices for chronic diseases through community pharmacies.

**Purpose:** To compile data on patient drug usage in POYC scheme.

**Method:** All data were taken from a community pharmacy in Malta. POYC patients who are registered with the pharmacy were assigned a number and were picked randomly using an online random number generator. Patient details and drug usage history were taken by accessing the POYC software. Drugs were categorised into their respective therapeutic class based on the outpatients' formulary list from the Ministry of Health.

**Results:** Drug usage data were obtained for 73 patients, 38 male and 35 female patients (mean age 70 years). The ten most commonly used drugs among POYC patients were Simvastatin (37), Amlodipine (23), Perindopril (22), Aspirin (21), Metformin (19), Valsartan (17), Omeprazole (16), Atenolol (13), Bendroflumethiazide (13), and Atorvastatin (12).

There has been an increase in the usage for seven out of the ten drugs. The greatest rise observed was of Atorvastatin use, with 1,064 tablets dispensed in 2019 up from 280 dispensed tablets in 2017, a 280% increase. Omeprazole and Valsartan have a 73%

and 48.5% increase, respectively. The quantity dispensed for Simvastatin decreased from 2,632 in 2017 down to 2,352 in 2018 and remained so in 2019. Dispensing of aspirin and bendroflumethiazide has been steady with 1,256 and 728 dispensed tablets respectively for each year over the past three years.

**Conclusion:** The study captures a trends perspective of drug usage within the national health service.

### Accuracy of clinical assessment of strep throat (CAST) to determine streptococcal infection

Adrian Shephard<sup>1\*</sup>, Evi Tselenti<sup>2</sup>, Tim Shea<sup>3</sup>

<sup>1</sup>*Reckitt Benckiser Healthcare Ltd., Slough, United Kingdom*

<sup>2</sup>*Reckitt Benckiser Healthcare Ltd., Hull, United Kingdom*

<sup>3</sup>*Reckitt Benckiser, New Jersey, United States*

**Background:** Sore throat in adults are predominantly caused by viral infections. Distinguishing between viral and bacterial sore throats based on clinical presentation is challenging.

**Purpose:** To determine the accuracy of CAST in evaluating the likelihood of Group A  $\beta$ -haemolytic streptococcal (GABHS) infection by comparison with throat culture results.

**Method:** Data from three clinical studies in adults with recent-onset sore throat were pooled. Patients had moderate/severe pain on the Throat Pain Scale,  $\geq 1$  symptom of an upper respiratory tract infection (URTI) on the URTI Questionnaire, and confirmed pharyngitis ( $\geq 5$  on the Tonsillo-Pharyngitis Assessment). Using patient history, symptoms and physical findings, investigators utilised CAST to make a clinical judgement on the likelihood of GABHS infection using a 4-point categorical scale (unlikely to very likely). Throat swabs for culture provided definitive diagnosis of GABHS infections.

**Results:** Data from 840 patients were included. Investigators considered GABHS infection likely/very likely in 19.5% of patients. Throat cultures were available for 833 patients, of whom 5.4% were positive for GABHS. CAST correctly identified 13 of 45 confirmed GABHS infections (sensitivity: 28.9%; specificity: 65.4%). Using CAST, 19.2% of patients could have received antibiotics inappropriately owing to a misdiagnosis of GABHS infection.

**Conclusion:** Confirmed GABHS infection rate was low (5.4%). CAST assessment showed a 19.2% rate of misdiagnosis of GABHS infection. Clinical assessment of GABHS infection could result in inappropriate antibiotic use. Treatment decisions that address throat symptoms could avoid inappropriate antibiotic use.

## Antihypertensive medicine use in The Baltic States between 2008 and 2018

Indrė Trečiokienė<sup>1,2\*</sup>, Nomeda Bratckoviene<sup>3,4</sup>, Jolanta Gulbinovic<sup>5</sup>, Bjorn Wettermark<sup>6</sup>, Katja Taxis<sup>7</sup>

<sup>1</sup>Pharmacy Centre, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

<sup>2</sup>Department of Pharmacy, Faculty of Science and Engineering, University of Groningen, Groningen, Netherlands

<sup>3</sup>Department of Mathematical Statistics, Faculty of Fundamental Sciences, Vilnius Gediminas Technical University, Lithuania

<sup>4</sup>Department of Human and Genetics, Institute of Biomedical Science, Faculty of Medicine, Lithuania

<sup>5</sup>Department of Pathology, Forensic Medicine and Pharmacology, Faculty of Medicine, Vilnius University, Vilnius, Lithuania,

<sup>6</sup>Department of Pharmacy, Faculty of Pharmacy, Uppsala University, Uppsala, Sweden

<sup>7</sup>Department of Mathematical Statistics, Faculty of Fundamental Sciences, University of Groningen, Groningen, Netherlands

**Background:** High blood pressure is an important risk factor for cardiovascular death and disability. High prevalence of hypertension is seen in all three Baltic States, but little is known about use of antihypertensives.

**Purpose:** To compare utilisation of antihypertensive medicines in Estonia, Latvia and Lithuania from 2008 to 2018.

**Method:** Wholesale data from the national retail audit IQVIA was obtained. The ATC/DDD methodology was used to calculate utilisation of RAS inhibitors, beta receptor blockers, calcium channel blockers, diuretics and other antihypertensives. The results were expressed in DDD per thousand inhabitants per day (DDD/TID). Time series analysis, ANOVA and Kruskal-Wallis tests were used.

**Results:** The total use of antihypertensive drugs was 372 DDD/TID in Estonia, 267 DDD/TID in Latvia and 379.5 DDD/TID in Lithuania in 2018. From 2008 utilisation increased by 10.88 DDD/TID (95% CI: 7.13 - 14.63), 8.04 DDD/TID (95% CI: 4.57 - 11.52) and 6.42 DDD/TID (95% CI: 2.44 - 10.41) annually, respectively. The use of all classes increased, except calcium channel blockers. Most frequently used class in 2018 was RAS inhibitors in all three countries. The use of central acting antihypertensives was highest in Lithuania, 30.9 DDD/TID, compared to 3.01 DDD/TID in Estonia and 16.17 DDD/TID in Latvia in 2018. Use of fixed-dose combinations increased from 30.3 to 94.9 in Estonia, from 33.7 to 87.1 in Latvia and from 28.2 to 106.6 DDD/TID in Lithuania.

**Conclusion:** The use of antihypertensive medicines has increased in the Baltic states, mostly driven by RAS inhibitors, beta-blockers and fixed-dose combinations. Low overall use of antihypertensives in Latvia and high use of central acting substances in Lithuania were detected.

## References

OECD/European Observatory on Health Systems and Policies. (2019). Estonia: Country Health Profile 2019, State of Health in the EU, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels. <https://doi.org/10.1787/0b94102e-en>

OECD. (2019). Latvia: Country Health Profile 2019, State of Health in the EU, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels. <https://doi.org/10.1787/b9e65517-en>.

OECD/European Observatory on Health Systems and Policies. (2019). Lithuania: Country Health Profile 2019, State of Health in the EU, OECD Publishing, Paris/European Observatory on Health Systems and Policies, Brussels. <https://doi.org/10.1787/35913deb-en>.

Mancia, G., Fagard, R., Narkiewicz, K., et al. (2013). 2013 ESH/ESC guidelines for the management of arterial hypertension: The Task Force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). *European Heart Journal*, **34**(28), 2159-2219. <https://doi.org/10.1093/eurheartj/ehy151>

WHO. (2020). Collaborating Centre for Drug Statistics Methodology, ATC classification index with DDDs, 2020. Oslo N 2019. No Title. Available at: [https://www.whocc.no/atc\\_ddd\\_index/](https://www.whocc.no/atc_ddd_index/)

Williams B, Mancia G, Spiering W, et al. (2018). 2018 ESC/ESH Guidelines for the management of arterial hypertension. *European Heart Journal*, **39**(33), 3021-3104. <https://doi.org/10.1093/eurheartj/ehy339>

## Impact of high-risk medication training videos on the knowledge of community pharmacists in India

Balakeshwa Ramaiah<sup>1</sup>, Jerish Varghese<sup>2\*</sup>, Nishan Malla<sup>3</sup>, Naresh Sah<sup>4</sup>, Raju Koneri<sup>5</sup>, Usha K<sup>6</sup>

<sup>1</sup>Head and Associate Professor, Karnataka College of Pharmacy, Bangalore, India

<sup>2</sup>Pharmacy Practice Student, Karnataka College of Pharmacy, Bangalore, India

<sup>3</sup>Clinical Pharmacist, Karnataka College of Pharmacy, Bangalore, India

<sup>4</sup>Assistant Professor, Karnataka College of Pharmacy, Bangalore, India

<sup>5</sup>Dean and Professor, Karnataka College of Pharmacy, Bangalore, India

<sup>6</sup>Pharmaceutics Associate Professor, Karnataka College of Pharmacy, Bangalore, India

**Background:** It is evident that there is deficient knowledge on high risk medications (HRMs) in community pharmacists, therefore there is a high demand for informative materials on HRM management. This may lead to several medication errors causing life threatening conditions or even death.

**Purpose:** To explore the baseline scores on increment in the knowledge of community pharmacist on various aspects of high-risk medications management after administration of pre- and post-intervention questionnaire.

**Method:** Informative videos involving four chapters such as introduction, dispensing, look alike and sound alike (LASA) and storage and labelling of high-risk medication were developed from literature review and expert input. The pre-questionnaire consisted of 24 sets of questions regarding HRMs and their management, this was administered to 263 community pharmacists. After which an intervention with informative materials occurred, and post-questionnaires were administered. The final result on increment in their knowledge was thus evaluated.

**Results:** On average, only 43.8% of the total answers were answered correctly in the pre-test. This showed that there was insufficient knowledge on HRMs. Interestingly, the post-test showed an increment factor of 16.5%, by attaining an average of 60.3%. The chapter-wise increments in knowledge were 19.7%, 17.7%, 15.6% and 13.3% for the above four chapters, respectively.

**Conclusion:** It is clear that insufficient knowledge is a contributing factor in pharmacists' involvement in dispensing errors, and the using of validated training videos on HRM will certainly be beneficial.

(-52%), followed by drugs for cardiovascular disorders (-46%). Drugs for respiratory conditions had the lowest price difference (-6%). The overall average price difference between originator and generic medicines among all ATC classes was -29%.

**Conclusion:** The results infer that generic alternatives are available with a varied price difference across pharmacological classes. Further study into the reasons behind the difference could support strategies that increase access to medicines.

### Comparison of prices of originator and generic medicines

John Robert Omandac, Francesca Wirth, Lilian M Azzopardi<sup>1\*</sup>

*Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Msida, Malta*

**Background:** Generic medicines have gained popularity in recent years since they allow cost savings and create competition contributing to improved medicines access.

**Purpose:** To compare the prices of originator medicines with their generic counterparts available on the Maltese markets.

**Method:** The study focused on solid oral dosage forms available from community pharmacy in Malta as of January 2020. A tally of originator medicines and their generic counterparts was generated. Each drug was classified based on the Anatomical Therapeutic Chemical (ATC) classification system. The ratio of originator to generic counterparts was identified. The prices of the originator and generic medicines were listed and compared. The percentage price difference for each class and the overall average percentage price difference was determined.

**Results:** The study included 76 originator medicines and their generic counterparts (n=148) covering nine ATC classes. For every originator medicine, an average of two generic alternatives were available (1:2). The average percentage price difference for all classes indicates a price reduction. Drugs for blood disorders showed the highest average price difference