EUROPEAN JOURNAL OF
PUBLIC HEALTH

Volume 32 Supplement 3

SUPPLEMENT

15TH EUROPEAN PUBLIC HEALTH CONFERENCE

Strengthening health systems: improving population health and being prepared for the unexpected
Berlin, Germany
9–12 November 2022

ABSTRACT SUPPLEMENT

Guest editors: Reinhard Busse, Verena Vogt, Dineke Zeegers Paget

CONTENTS

the centre of the device. The lamp has a dome covered with a reflective, protective coating. Three metal carriers were placed at the maximum distance from the UV-C lamp in three different positions and tested at 30 and 60 seconds 3 times. The carriers were inoculated with 100 µL of SARS-CoV-2 viral suspension with a concentration of 106.5 TCID50 /mL. After treatment, laboratory procedures were used to transfer the treated virus from carriers to multiwell plates. The samples were compared with positive controls (not exposed to UV-C light) after incubation, at 37 °C in 5% COÕ · in a humidified atmosphere, for 3 days. The residual viral activity was tested by assessing the 50% infectious dose per tissue culture (TCID50%).

Results:

Tests performed at 30 seconds of UV-C irradiation show an average viral reduction of 4.0 Log10 (99.99%). All three tests performed at 60 seconds reached the maximum measurable log10 viral reduction: 5.0 Log10 (99.999%).

Conclusions:

The study assessed the effectiveness of the device in significantly reducing the viral load on all carriers regardless exposure time and distance from the UV-C light source, with no impact on the level of environmental pollution.

Key messages:

- UV-C light has the property of inactivating viral growth; its physical approach is considered a good compromise between cost and effectiveness.
- The device was effective in disinfecting all small everyday objects tested.

Abstract citation ID: ckac131.073
A time-varying SIRD model for dynamic vaccination strategies against COVID-19

Valentina Lucarelli

A Cartocci[1], V Lucarelli[2], G Messina[2], N Nante[2], G Cevenini[1], P Barbini[1,3]

[1]Department of Medical Biotechnology, University of Siena, Siena, Italy
[2]Department of Molecular and Developmental Medicine, University of Siena, Siena, Italy
[3]Department of Information Engineering and Mathematics, University of Siena, Siena, Italy
Contact: Valentina.lucarel@student.unisi.it

Introduction:

The COVID-19 pandemic has demonstrated how the optimal allocation of the limited doses of vaccine available represents one of the main useful measures to mitigate the transmission of the infection and reduce the mortality associated with it, especially at an early stage of the pandemic. The use of a compartmental model allows us to understand which population groups to vaccinate and to what extent to act depending on the type of health or social objective to be achieved.

Methods:

A time-varying susceptible-infected-recovered-deceased (SIRD) compartmental model, stratified into ten age groups, was developed on Italian data. Simulations were performed every 15 days from December 2020 to April 2021. An optimal vaccination strategy was achieved by minimizing deaths or infected, considering the total vaccine doses available.

Results:

We showed how the effects of a vaccination campaign can be planned in a way that maximizes lives saved and/or minimizes infections. Regarding the minimization of deaths, the model prioritizes the elderly (>80 years) and then those between 60 and 80 years, in all simulations. Regarding the cost function of new infections, the first simulation assigns all available doses to those over 90 years of age. In the later simulations, the doses are assigned mainly to the 20-29-year-old and the 89+ year old.

Conclusions:

Optimal allocation of available vaccine doses is useful in mitigating transmission of infection and reducing mortality. Application of the mathematical model can be useful at the beginning of an epidemic caused by a new pathogen, when data are scarce, and it is therefore necessary to introduce a standardized approach. This kind of simulation is useful to understand whether the implemented vaccination strategy needs to be recalibrated, too.

Key messages:

- Time-varying compartmentalised models can be used both to continuously inform decision-makers about changes in epidemic traits and to simulate the effects of targeted pandemic containment strategies.
- The application of compartmental models can be very useful at the onset of an epidemic to more successfully contain it and structure the health, political, and economic plan.

Abstract citation ID: ckac131.074
Healthy aging in place during the pandemic in Northern Italy

Sigrid Mairhofer

N Paone[2], S Mairhofer[1]

[1]Applied Social Sciences, Hochschule München University of Applied Sciences, Munich, Germany
[2]Faculty of Education, Free University of Bozen - Bolzano, Bolzano, Italy
Contact: sigrid.mairhofer@hm.edu

Many elderly people would like to stay in their own homes as long as possible. Therefore, a focus on enabling factors for a healthy aging in place in needed. Italy was the first European country to be hit hard by the pandemic. These had an impact on people's everyday lives, on social participation and freedom of movement for all sections of the population. But especially elderly people were considered a risk group and were urged to leave their homes as little as possible. The project aimed to analyse the situation of elderly people in South Tyrol (Northern Italy), focusing on the characteristics of enabling factors for a healthy ageing in place. The main research question was: What kind of enabling factors ensure a healthy aging in place during the pandemic? Using a mixed-methods-approach, we conducted 10 semi-structured interviews (experts: social workers, health professionals, responsible persons from senior associations, ...) analysed by qualitative content analysis and a quantitative questionnaire (536 respondents, aged 60 to 101 still living in their own home) from 2020 to 2021. The questionnaire was distributed in digital and analogue form to reach a wider study group and to facilitate access to the research group despite the infection control measures or technical challenges. The results show that there were numerous changes in the everyday life of elderly people during the pandemic, which were described as particularly important for a healthy ageing in place. Based on the answers to the pandemic-related restrictions, 6 categories could be identified: Loneliness versus desire for social contact, mobility, emotions, needs, opportunities, restrictions. To be able to guarantee healthy ageing in place, we need to examine and promote these enabling factors in the long term.

Key messages:

- A focus on enabling factors for a healthy aging in place in needed.
- There were numerous changes in the everyday life of elderly people during the pandemic, which were described as particularly important for a healthy ageing in place.

Abstract citation ID: ckac131.075
USCA service utilization in the city of Florence (Italy) during the COVID-19 pandemic

Primo Buscemi

P Buscemi[1], B Velpini[1], C Cosma[1], C Milani[2], R Landi[3], M Innocenti[4], L Baggiani[4], M Nerattini[5], C Lorini[2], G Bonaccorsi[2]

[1]School of Hygiene and Preventive Medicine, University of Florence, Florence, Italy
[2]Department of Health Sciences, University of Florence, Florence, Italy
[3]Azienda USL Toscana Centro, Florence, Italy
[4]Department of District Healthcare Network, Azienda USL Toscana Centro, Florence, Italy
[5]Florence Local Health District, Società della Salute di Firenze, Florence, Italy
Contact: primo.buscemi@unifi.it

Background:
In order to support primary care during the first pandemic wave (March 2020), the Italian Government instituted multi-professional health teams called ''USCA'' (Special Continuity Care Units), which ensured continuity of care for COVID-19 patients who do not need hospitalization. The aim of our study was to compare the volumes of USCA service utilization in Florence (Tuscany, Italy) during the peak of home visits of three pandemic waves.
Methods:
This single-center study followed a retrospective cross-sectional design. The USCA of the Heath District of Florence served a population of 366,190 people. The following data were collected: home medical visits, nursing home (NH) visits, visits in health-care hotels. The peak periods of three epidemic waves were considered in the analyses: the second wave (23 October - 20 November 2020), the third wave (25 March - 22 April 2021), and the Omicron period (27 December 2021 - 6 February 2022). The maximum 7-day moving averages of the daily number of visits during the three periods were calculated. Relative percent differences for visits comparing the considered periods were computed.
Results:
Home visits during the third pandemic wave increased by 14% compared to the second wave (second wave: N = 1370, third wave: N = 1562), while a decrease was observed during the Omicron period (Omicron vs third wave: -21%; peak value: 41 vs 60). Visits in health-care hotels during the third wave doubled compared to the second wave. After the start of the COVID-19 vaccination campaign, NH visits steeply declined (third wave vs second wave: -95%; N = 323 vs 15; peak value = 14 vs 2 visits per day). During the Omicron period, NH visits increased by almost four times compared to the third wave period.
Conclusions:
The USCA service utilization was significant in all the analyzed periods. In a pandemic context, it is necessary to strengthen primary care services such as USCA, which have proved to respond to rapidly changing health needs.
Key messages:
- The USCA service is an innovative model of integrated home care that has proved to respond to rapidly changing health needs during all phases of the COVID-19 pandemic.
- The USCA service utilization was significant during all phases of the pandemic. The USCA service has introduced new ways of working and new relationships between services in primary care.

Abstract citation ID: ckac131.076
Resilience and life quality of health professionals in capital of Turkey during COVID-19 pandemic

Özge Tonbuloğlu Altıner

Ö Tonbuloğlu Altıner[1], A Uğraş Dikmen[1], C Gingir[1], S Özkan[1]
[1]Public Health, Gazi University, Ankara, Turkey
Contact: ozgealtiner@gmail.com

Background:
COVID-19 pandemic has had significant effects on physical and mental health of health professionals. It is thought that resilience protects individuals against mental illness and helps individuals cope with difficulties and stress more effectively. In this study, it was aimed to evaluate resilience, life quality and related factors of health professionals during COVID-19 pandemic.
Methods:
A cross-sectional study was performed among health professionals working at a tertiary hospital in Turkey's capital Ankara. An occupation based stratified sampling was done with taking alpha 0.05 and 1-beta 0.80. A questionnaire that consists of sociodemographic information, COVID-19 Impact on Quality of Life Scale and Connor Davidson Resilience Scale was used to collect data. The results of scales were divided into two parts by taking the median values as cut off points. Descriptive/inferential statistics and logistic regression were performed on IBM's SPSS 27.0 program.
Results:
A total of 987 participants were surveyed. 66% of them were female, and the average age was 36. Multivariate logistic regression analysis results that physicians (OR:1.48, 95% CI:1.05-2.07, p = 0.024) and nurses (OR:1.46, 95% CI:1.08-1.97, p = 0.013) have lower resilience. The impact of COVID-19 on quality of life was higher for the following groups; physicians (OR:2.07, 95% CI:1.43-3, p < 0.001), nurses (OR:1.61, 95% CI:1.10-2.36, p = 0.013), who have bachelor/higher degrees (OR: 1.54,95% CI: 1.02-2.31,p = 0.038), infected with COVID-19 (OR:1.33, 95% CI:1.02-1.74, p = 0.034), have COVID-19 related relative lost (OR:1.42, 95% CI:1.06-1.89, p = 0.016), and live with risk groups (OR:1.31, 95% CI:1.01-1.71, p = 0.042).
Conclusions:
Physicians and nurses who take care of patients one-on-one have lower resilience and higher decrease in life quality due to COVID-19 impacts. This result indicates a significant quality drop in health services is inevitable during pandemics and should be considered by the policy makers.
Key messages:
- Policies should be developed to increase the resilience of healthcare professionals so that they can effectively combat public health emergencies such as COVID-19 and not affect their quality of life.
- It is necessary to determine risk groups among health workers and plan training programs to increase resilience.

Abstract citation ID: ckac131.077
Management of vaccine-related issues during a pandemic emergency: activation of a referral center

Christian Cintori

C Cintori[1], G Diegoli[1], G Mattei[1], G Belloli[1], P Viale[2,3], L Attard[2], L Marconi[2], C Lugli[4], D Azzalini[4], C Artoni[5]
[1]Regional Health Authority, Emilia-Romagna Region, Bologna, Italy
[2]Infectious Diseases Unit, IRCCS University Hospital of Bologna, Policlinico Sant'Orsola, Bologna, Italy
[3]Department of Medical and Surgical Sciences, Alma Mater Studiorum University of Bologna, Bologna, Italy
[4]School of Hygiene and Preventive Medicine, University of Modena and Reggio Emilia, Modena, Italy
[5]School of Hygiene and Preventive Medicine, University of Ferrara, Ferrara, Italy
Contact: christian.cintori@regione.emilia-romagna.it

Issue:
Vaccine hesitancy (VH) and the challenges faced by healthcare workers (HWs) in evaluating the complex risk-benefit ratio of vaccines' threaten the effectiveness of vaccination policy. The threat is enhanced when new vaccines are adopted during a pandemic emergency. In Italy, the Emilia-Romagna Region (ERR) created a specialized referral board called Vax-Consilium (VC) to support and guide HWs.
Description of the problem:
During a pandemic emergency, rapid and appropriate vaccine implementation is necessary to protect fragile individuals and to encourage vaccine adherence among exposed groups. Challenges in the realm of vaccination emerge, especially when dealing with patients with a complex medical history or previous vaccine adverse events. HWs were able to consult VC via a standardized digital form after obtaining the patient's informed consent. After a multidisciplinary and