

COVID 19 CASE MANAGEMENT STRATEGIES AND THE CONTINUATION OF THE LEARNING PROCESS INSIDE “MIRCEA CEL BĂTRÂN” NAVAL ACADEMY

**Captain (N) Eng. Ioan Gabriel MOISE, Major Mihai CHIRIȚĂ, MD,
Lecturer Edith-Hilde KAITER, PhD, “Mircea cel Bătrân” Naval Academy
Constanța**

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Abstract: In full swing, technological and economic, the humanity, totally convinced that those were its most beautiful times, was shaken, in the last month of 2019, from the center of Wuhan, China, by the Corona virus, which destroyed the apparently universal peace and harmony. With rapid steps, the pandemic covered the whole world in a few months, until the spring season of next year; everything got being placed under a major question mark, and then postponed and closed: flights, companies, events, public and educational institutions. The Internet became almost too small for all the activities that used to take place and the world had to learn to get used to it and live differently.

Therefore, the hereby paper aims to present the way in which “Mircea cel Bătrân” Naval Academy, a prestigious university in Romania, and not only, has managed to adapt, along with rigorous prevention measures against the spread of SARS-VOC 2 virus, to the new wave of changes imposed by the pandemic and to continue the tradition of quality marine education.

Keywords: students, quarantine, pandemic, analysis, evolution.

The world takes on another dimension when health and freedom are threatened, as it has been since the emergence of the new Corona virus in Wuhan, China, when a group of people were diagnosed with pneumonia of unknown cause, which was later thought to have come mainly from stallholders working at the Hunan fish market, who also sold living animals. The new coronavirus was named 2019-nCoV by Chinese scientists because it was shown to be at least 70% similar in the SARS-CoV gene sequence.

The first coronavirus cases in Romania and the Republic of Moldova were confirmed on February 26 (in the county of Gorj) and March 7, 2020. On March 11, 2020, the World Health Organization declared that the coronavirus outbreak had become a pandemic.

As scientists have established, the virus that causes COVID-19 is mainly transmitted through droplets generated by someone who has got the infection and he coughs, sneezes, or exhales. One can get infected by breathing in the virus in case the person is within close proximity of someone who manifests these symptoms, or while touching a contaminated surface and then immediately your eyes, nose or mouth.

Considering these aspects, “Mircea cel Bătrân” Naval Academy had its first case of infection with SARS-CoV2 virus on March 13, 2020. Since then, we have totalled a number of 70 people infected with the SARS-CoV2 virus, from different categories of students and staff.

At the level of the Naval Academy, we have analysed two types of communities presenting similarities and differences in the dynamics of the pandemic evolution:

1. A closed-type community, consisting of about 400 people – students.
2. An open-type community, made up of the institution’s personnel, military and civilian, numerically comparable to that mentioned above.

1. In the closed-type group of students, after analysing the cases, we have noticed two distinct phases, as follows:

1.a. The beginning of the university year and the first contact with the virus (16 September 2020 – 11 November 2020)

A closed-type group of students, consisting of 400 students, allowed a much better control of the epidemiological situation in the country and a much more efficient management of new cases, which turned into a greater challenge. The students were sent home, where they continued their educational activity online, two days before the appearance of the first case of coronavirus in the Naval Academy. As a consequence, this first case of coronavirus infection did not lead to the transmission of the virus to students. They, as well as their families, did not report any infection with the new coronavirus, a situation in which they should have been either isolated or quarantined.

The students returned to the Academy starting September 16, 2020, when the situation in the country seemed to be under control and allowed schools and universities to reopen their gates. During Covid testing at the Academy, a number of 10 students were detected to be infected with the SARS-CoV2 virus. Following the epidemiological investigations, their close-contacts were quarantined and of those quarantined, only 3 tested positive in the next time span. After the date of September 27, 2020, when the students were present inside the Academy, only one case of SARS-CoV2 infection among students was registered and one of his contacts was positive.

The sets of strategies and measures imposed at the level of the Naval Academy made it possible, even if we had an increased number of infected students, to rehabilitate the outbreak and not to register any case among the students after about two weeks from the school start. The challenge was even greater as they slept in large numbers in common areas. The basic measure in addition to wearing a protective mask, keeping a social distance, frequent disinfection of common areas, serving meals separately, was to raise awareness of the danger and risk of being infected with the SARS-CoV2 virus. The transmission rate of the infection within this community was 1%.

1.b. Students living with the virus (*February 16 – up to the current day*)

It was the time when all the experiences from the former time lapse began to be successful.

Awareness of the risks of transmitting the SARS-CoV2 virus among students increased, so that when they returned in order to start their face-to-face activities, and got their screening for the detection of the SARS-CoV2 virus, only two cases were registered. Their contacts were quarantined and in the following time lapse no new cases arose either from contacts or from the students.

After both returns of students from holidays, the entire procedure was followed: the detection of cases of SARS-CoV2 infection, the hospitalization of those who were found positive, the quarantine of direct contacts; no other cases were registered which could have demonstrated an intra-community transmission.

Another important aspect is that following the analysis of cases and epidemiological investigations, there were no cases of transmission from students to teachers and vice versa. And that has not been easy at all; neither for the students nor for the staff and teachers. Despite the fact that the virus has been so present in our lives, all these people present in the educational process have worked together in such a professional way so that the students should always have access to information and should benefit from a correct assessment of their acquired knowledge.

From the analysis of the graphs, we can see that the number of cases has always increased after the beginning of the semester, which has not been the case in our institution where the gap between positive cases is large enough to state that there is no epidemiological link between the two communities. There has been also no evidence showing a rate of infection at the mess, the place where the students have their meals. It is also very important to be noted the students' decision to be vaccinated against the SARS-CoV2 virus, the percentage of those vaccinated with the first dose being 80%.

2. The analysis of the pandemic evolution in the *open-type* community, consisting of the entire staff of the institution, apart from the students (*February 26 – up to the current day*)

After analysing the cases of infection with the new coronavirus in this community and comparing them with the SARS-CoV2 positive case data nationally recorded we can notice a directly proportional relationship between them, the number of cases increasing or decreasing depending on the epidemiological situation in the country. This fact can be explained by the fact that the second community is an open-type one, the infected people being mostly part of families and the risk of them contacting the virus from family members being increased. Of the SARS-CoV2 positive cases, 40% stated in epidemiological surveys that they became infected in the family. The rest declared that they did not know the source of their contamination.

Following the epidemiological investigations, no cases of intra-community transmission were detected among the institution's staff.

After an aggressive increase in November 2021, there followed a time span with very few registered cases correlated with those at the national level as it can be observed in the graphs below.

The gender distribution of the staff infected with SARS-CoV2 virus was 25% female cases and 75% male cases.

Even from the beginning, preventive measures have been taken against the spread of SARS-VOC 2 virus in our institution, the most significant being: mandatory wearing of a protective mask, raising awareness and implicit compliance with individual and collective prevention measures, staying at home in case of COVID-19 symptoms, encouraging hand hygiene, proper disinfection of spaces at work, thermal scanning at the institution’s entrance; we can mention that no cases of COVID-19 were detected during this operation, this being due to the fact that a person accusing symptoms and fever was supposed to remain at home (the fact that fever is not a mandatory symptom had to be taken into consideration).

Basically, the anti-covid measures in our institution had as main purpose the reduction of the risk of intra-community transmission, an objective that was achieved according to the facts presented above. To be mentioned that there were no deaths among staff or students.

Conclusions:

1. The increased number of cases of SARS-CoV2 virus infection, which occurred as a result of mass testing of students on their return to our educational institution, did not lead to an increase in cases among the staff of the Naval Academy, this being the result of a proper compliance with the prevention and control measures of infection with the SARS-CoV2 virus, measures which were undertaken within the educational institution.

2. The number of cases of SARS-CoV2 infection, detected in students does not respect the infection schedule at the national level, the group of students being a closed-type one, with its evolution and dynamic. (Fig. 1 and Fig. 2).

Daily New Cases in Romania

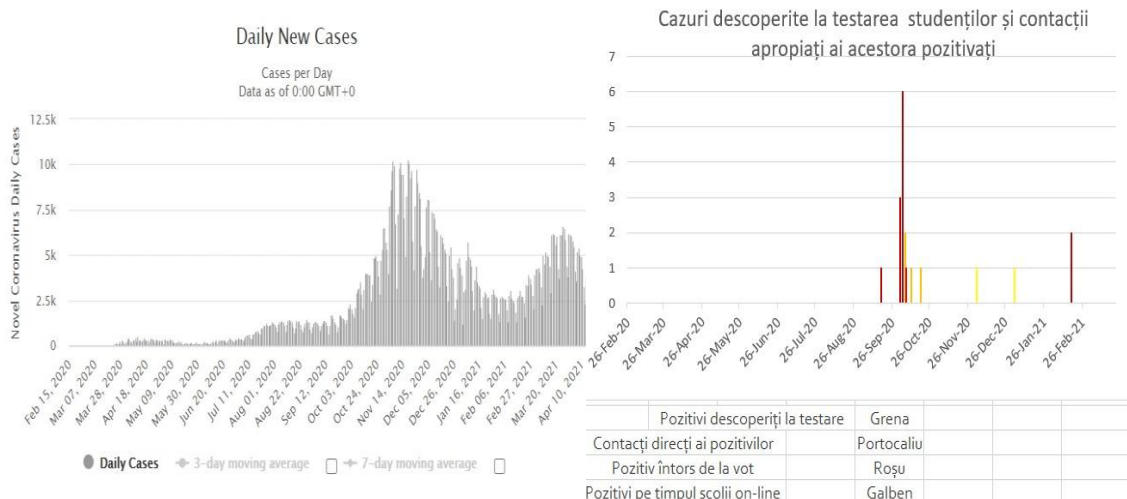


Fig. 1

Fig.2

3. After approximately two weeks after the increased number of cases detected during the screening process, no new cases were registered, aspect which reflects the effectiveness of the measures taken at the level of the educational institution (Fig. 2).

4. The number of infections among the staff of the Naval Academy is closely correlated with the number of infections at national level, due to the fact that this community is an open one; it can also be mentioned that the number of infection cases has been low lately although at national level we still can talk about a high infection rate (Fig.3 with Fig.4 and Fig.1 with Fig.5).¹

Total Coronavirus Cases in Romania

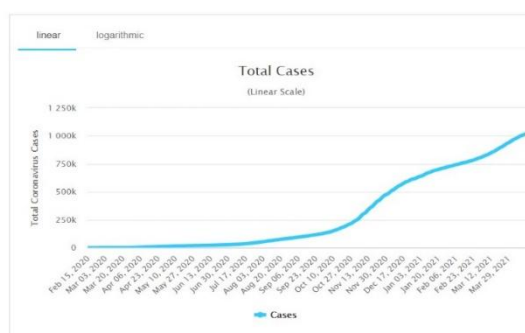


Fig.3

Număr total cazuri personal Academia Navală



Fig.4

Daily New Cases in Romania

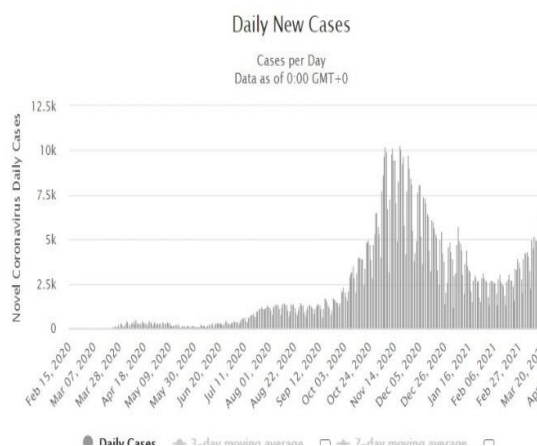


Fig.1

Cazuri noi zilnice personal Academia Navală

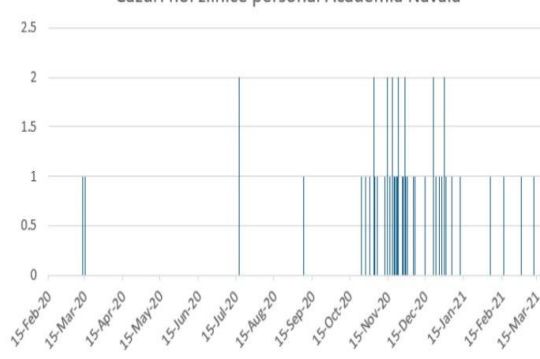


Fig.5

As it appears from this analysis, although the times have not been extremely favourable, due to a rigorous organization, all the necessary steps have been taken, in order to maintain the educational process unaffected, despite the new experience that humanity has faced. The interest of our students and staff towards their future

¹ Fig.1 and Fig.3 source: Romania Coronavirus: 1,020,301 Cases and 25,800 Deaths – Worldometer (worldometers.info)

education and development remaining high, makes us state that together we are strong and we can overcome any obstacle.

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