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Smallpox prevention in the Austrian Littoral

ABSTRACT

The article discusses vaccination as the key smallpox prophylaxis, used in the Habsburg provinces from the beginning of the nineteenth century onward. The analysis of quantitative data for the Austrian Littoral (particularly Koper and Trieste) also points to the scope and frequency of smallpox epidemics in the second half of the nineteenth century, which raises questions concerning the extent to which these prophylactic measures were implemented and the population's willingness to heed the calls for immunization. By creating a regulatory framework, the state sought to attain the maximum possible prevalence of this practice, which nevertheless remained the target of various prejudices for a long time to come. The authorities, the Church, and scientists therefore sought to heighten the popular awareness on the need for immunization through a range of communication channels. Because cowpox vaccination failed to ensure lasting immunity, revaccination was of crucial importance, but its implementation was even more limited.

KEY WORDS
smallpox, vaccination, Habsburg Monarchy, Austrian Littoral, Koper, Trieste, nineteenth century

IZVLEČEK

PREPREČEVANJE ČRNIH KOZ V AVSTRIJSKEM PRIMORJU

Članek obravnava vakcinacijo kot ključno profilakso pri črnih kozah, ki je bila tudi v habsburških deželah v uporabi od začetka 19. stoletja. Analiza kvantitativnih podatkov za območje Avstrijskega primorja (zlasti Koper in Trst) nakazuje na obsežnost in pogostost epidemij črnih koz tudi v drugi polovici 19. stoletja, kar odpira vprašanja o obsegu izvajanja teh profilaktičnih ukrepov, na drugi pa tudi o odzivnosti prebivalstva na pozive k cepljenju. Država je z regulativi skušala doseči čim večjo razširjenost te prakse, vendar pa so jo še dolgo po njeni uvedbi spremljali različni predsodki. S pozivi preko različnih komunikacijskih kanalov so zato oblasti, Cerkev in znanost skušali ozavestiti prebivalstvo o potrebnosti cepljenja. Ključnega pomena je bila tudi revakcinacija, saj cepljenje z govejimi kozami ni zagotavljalo trajne imunosti, vendar pa je bilo njeno izvajanje še bolj omejeno.

KLJUČNE BESEDE
črne koze, vakcinacija, habsburška monarhija, Avstrijsko primorje, Koper, Trst, 19. stoletje

Introduction

Also in the past, one of the most important questions concerning contagious diseases was how to prevent them. Some types of bacterial infections (especially cholera, but also dysentery, typhoid fever, etc.) required different measures, starting with hygienization, which became a widespread and organized practice in the nineteenth century, and social mechanisms to mitigate the consequences of epidemics among socially disadvantaged (and more disease-prone) groups of population. However, in the case of smallpox,[1] the nearly universal and systemic form of prophylaxis was immunization. Variolation and later vaccination, applied to confer immunity to smallpox, also marked the beginning of the history of vaccination, when "practical medicine outperformed theoretical achievements"[2] for no less than a century, until the discovery of viruses, which paved the way to the development of immunology. Owing to its universal prevalence that posed an especially serious health threat to children, in the eighteenth and nineteenth centuries smallpox received major medical attention to prevent infection.

The paper[3] aims to present some data on vaccination in the nineteenth century as well as certain social discourses that accompanied this practice within the context of concern for the wellbeing of the population. Using fragments of quantitative data (on the examples of Trieste as the key focus of the epidemic and the severely affected nearby Koper), the article also seeks to determine the incidence of variola on the one hand and the effectiveness of vaccination on the other.

Variola epidemics in the second half of the nineteenth century

The long-lasting presence of variola in the European area was one of the main reasons that smallpox[4] gradually became inscribed into the collective consciousness and fear, and indirectly also into a broader discourse on the protection of children's health,[5] including as part of the growth-oriented population policy. Smallpox often accompanied other epidemics, e.g., cholera (in 1873[6] and 1886,[7] for example) and influenza—or the 'Spanish flu'—in 1918,[8] whereas in certain periods it also occurred sporadically.

A major smallpox epidemic that was triggered by the Franco-Prussian War in the 1870s[9] severely affected the Austrian Littoral, especially Trieste. Soon after it reached Austria, the epidemic turned the city into the second largest focus of contagion (with a death toll of 72.2 persons[10] per ten thousand inhabitants and 18.3 in Istria). A year later, it peaked in Gorizia-Gradisca (7.6) and in 1874 in Carniola (51.1) and several other provinces.[11] As shall be seen below, in the last quarter of the nineteenth century, variola hit Trieste in several intermittent epidemic waves.

One of the most detailed collections of health statistics available on the occurrence of the disease in Trieste[12] builds solely on the number of smallpox patients who sought help in the city hospital (either because they suffered from a severe form of the disease or because, mostly coming from the city's poorer quarters, they had no other shelter), without providing an overall picture of its incidence among the population. Although reporting smallpox as a contagious disease (in addition to scarlet fever, diphtheria, any type of typhus, cholera, dysentery, measles, and whooping cough) was mandatory under the

1 Smallpox (*variola*) is a contagious viral disease that can be passed from one person to another especially through coughing or sneezing, and by direct contact with body fluids or personal items of an infected person. The first symptoms include high fever, fatigue, malaise, vomiting, etc., after which the infected person develops red rash or blisters. It usually starts on the face, upper arms, and legs (as well as mucous membranes), and then spreads all over the body. The patient is the most contagious at this time. After a few days, the fever subsides, and the rash turns into papules and vesicles with a red ring formed around the edge. Initially, the lesions are filled with translucent liquid, which turns into pus, and after a few days form scabs that dry and fall off, leaving deep pockmarks on the skin. The patient's general condition slowly improves; however, if that is not the case, the disease can also lead to death (cf., e.g., Travner, *Kuga na Slovenskem*, p. 10; Kiple, *The Cambridge world history*, pp. 1008–1012).

2 Borisov, *Zgodovina medicine*, p. 602.

3 The research was partially funded from the ARRS project J6-1800 and program P6-0272.

4 In the first half of the century, F. V. Lipič, physician in Ljubljana, pointed to the widespread use of a single term for cowpox and a disease erroneously identified as human pox (which was, in fact, varicella or chickenpox) (Lipič, *Topografija*, p. 209). Conversely, A. De Manussi from the Trieste hospital tentatively typified smallpox into "vaioloidi" (a mild form of smallpox), "vaiolo vero" (ordinary smallpox with well-developed pustules and "pustule fever"), "vaiolo confluente" (confluent rash and coalescing pustules), "vaiolo emorragico" (hemorrhaging within petechiae), and "purpura vaiolosa" (no papules or pustules but an extremely high occurrence of petechiae on the skin or mucous membranes, with severe hemorrhaging in various organs), without including varicella in his statistical data (De Manussi, *Cenni*, pp. 14–15).

5 On this, see Bratož, Bolni otroci, pp. 438–449.

6 In 1873, 620 persons contracted cholera and 351 died of it in Trieste (Bratož, *Bledolična vsiljivka*, p. 309). Because that same year recorded a remarkably low number of ten smallpox cases compared to the staggering figures (between three hundred and nine hundred) two years before and after that, it seems reasonable to assume that a certain percentage of people infected with smallpox was attributed to cholera as both infections perhaps coincided or the data were collected with less consistency.

7 Cholera killed 560 of nine hundred infected citizens in Trieste (Bratož, *Bledolična vsiljivka*, p. 309).

8 See Bratož, Vojna, lakota, p. 27.

9 Kramar, Epidemije, p. 110.

10 Not even second to Vienna with 52.7 deaths per ten thousand inhabitants.

11 Prinzing, *Epidemics*, p. 275.

12 De Manussi, *Cenni*.

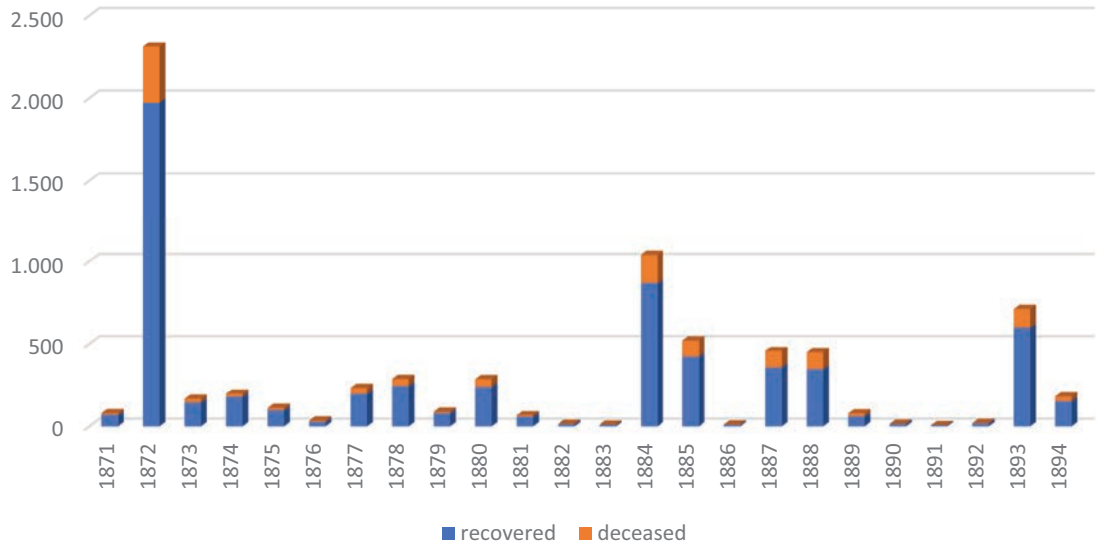

Fig. 1: Smallpox epidemics in Trieste according to the city hospital data (source: De Manussi, Cenni).

law of 1870,[13] the actual number of infected persons remains open to debate. However, based on the numerical data available, several waves of smallpox can be detected in the last quarter of the nineteenth century alone. The Trieste hospital recorded the highest number of infections (1,973) in 1872,[14] after which the disease continued to occur in minor outbreaks until 1880. The number of infections increased again in 1884 (867), and the end of the epidemic waves may be said to have arrived no sooner than four years later. Apart from smallpox, the city was also visited by cholera (which may have contributed to a less diligent recording of infections). Smallpox outbreaks peaked again in 1893 (597) in what developed into a two-year epidemic. According to these data, the mortality rate varied between 17% and almost 30%.[15]

The Koper district also experienced a major outbreak in 1872/73. The data from the city of Koper reveal that 314 persons contracted smallpox and forty-four died from the disease in that period (albeit not stating clearly over what time interval the evidence was collected).[16] A significant number of infected were the inmates of the city penitentiary (together with the wards accounting to about 20%), most of whom successfully recovered (5.8% died). Slightly less than half of infected persons were peasants who made up the majority population in the city, with mortality as high as 18.7%.[17]

On the other hand, according to parish registers, smallpox occurrences in Koper caused fewer fatalities in the last decades of the nineteenth century; the disease manifested more severely between the end of 1884 and the first months of 1885, when it killed six people (including three children) in Koper, and between the end of 1887 and early 1888, when it killed seven (among them three children).[18]

Immunization through the prism of regulations and social discourses

During smallpox outbreaks, particular attention was paid to children's health, also as part of the population policy encouraging the development of medicine[19] and prophylaxis aimed at disease prevention,[20]

13 See, e.g., Bratož, *Bledolična vsiljivka*, p. 189.

14 Other data obtained by the deputation in Trieste provide the following, probably more realistic figures: between early October 1871 and early April 1873, the city registered 2,634 infections resulting in 565 deaths (see Scartabellati, Visibili nemici, p. 534); cf. also the data brought forth by Pinguentini, Cronache, p. 40, stating no less than 4,839 infected and 893 deceased during the epidemic by drawing on monthly statistical data published in the newspaper *Il Cittadino*. His evaluation is also more in line with the estimated number of deaths per ten thousand inhabitants, provided by Prinzing, *Epidemics*, p. 275, whereas official state statistics (see Vodopivec, *Črne koze*, p. 92) set forth 923 smallpox-related deaths in 1872 alone and another fifty-three the following year.

15 De Manussi, *Cenni*; cf. *Resoconto sanitario*.

16 According to the register of infected persons (SI PAK KP 7, t. u. 110, 1872, Elenco dei colpiti, risanati e morti dal vajuolo), the first case of the disease already occurred in the early 1872 and the biggest surge in infections took place in September, but sporadic incidences continued all until the spring of the following year.

17 SI PAK KP 7, t. u. 110, a. u. 2122.

18 ŠAK, register of deaths (Koper), 1875–1899.

19 This also provides an important context for the understanding of the formation and development of pediatrics; see, e.g., Borisov, *Zgodovina medicine*, 342 and 255.

20 However, it seems reasonable to add that, before scientific discoveries were made attributing each disease a specific agent and etiology, smallpox prevention attempts were like those used for other contagious diseases with a more pronounced social component (e.g., cholera, typhus, etc.), including hygienization measures, especially in poor city quarters. Thus, in 1872, there were reports also from Trieste of a high smallpox incidence in poor areas, where dangerously dense population

primarily through immunization. Whereas some discussions[21] explicitly underlined poverty as one of the major factors that contributed to poor reproduction, they also maintained that the demographic growth would indirectly benefit from preventive health measures that prolonged life expectancy or, rather, reduced infant mortality, which was especially true for smallpox immunization. A delayed impact of immunization would, of course, also be ensuring the survival of most children up to an age (from between fifteen and twenty years onward) when they would "benefit society" or the state (workforce, the army, and so on).[22]

The first immunization (inoculation/variolation) procedures[23] against smallpox took place as early as the end of the eighteenth century, with an intradermal introduction of the *human* variola virus on both upper arms. As an enlightened medical accomplishment,[24] immunization in a way represented the triumph of reason and fostered a sense of human dominion over nature and hence also diseases.[25]

Although it generated lasting immunity, variolation also posed a threat of developing a severe or even deadly form of smallpox. Moreover, while recovering from the effects of variolation, inoculated persons could themselves become a source of infection to others.[26] Soon after the English physician Edward Jenner (re)discovered and improved vaccination (administering *cow* vaccine) in 1798,[27] the procedure was gradually adopted by physicians for only causing a milder form of smallpox.[28] However, because this method failed to provide lasting immunity, revaccination was—still unbeknownst to Jenner—required no more than ten years later.

The practice of vaccination took hold in Slovenian territory in the early nineteenth century—after Vincenc Kern and Anton Muznik introduced it to Carniola and Gorizia in 1801[29]—and at about the same time also probably in Istria.[30] Smallpox vaccination was already supported by the first Austrian rule,[31] and the subsequent French government introduced compulsory vaccination across the Illyrian Provinces.[32] In the 1820s, during the restored sovereignty of the Austrian Empire, the government imposed vaccination with instructions,[33] regulated by individual provincial codes.

Changes in government entailed certain modifications in regulating and implementing this preventive practice. Thus, for example, the bureaucratization of procedures, which the Austrian government introduced in Lombardy during the first decades of the nineteenth century (rendering vaccination no longer a philanthropic activity but one imposed on physicians), met with criticism in the following segment of the "Dictionary of Public Health" in 1860: "*In the period of the Kingdom of Italy, under Director General* [pioneer of vaccination in Italy, Luigi] *Sacco, vaccination was an act of genuine philanthropy that devout, esteemed members of all strata, gathered in provincial committees, had taken on with great diligence and religious ardor, and fulfilled it to the tremendous benefit of the population. Yet the moment that the Austrian government pushed it through the door of bureaucracy, it was stripped of all its humanitarian reputation for which it had been embraced and considered desirable, after all those useful committees had to give way to city deputations. The heavy burden was thus placed on physicians administering the vaccine, who shouldered all the responsibility not only for the procedure that they had to perform but also for its results, which they had to verify in nearly all cases.*"[34]

facilitated the spread of infection, making the preparation of provisional space for their transfer urgently necessary (Pinguentini, Cronache, pp. 37 and 41; cf. Scartabellati, Visibili nemici, p. 533; for Ljubljana, see Vodopivec, Črne koze, p. 96). That same year, the authorities in Koper, too, devoted particular attention to ensure the cleanliness of public surfaces, as well as disinfection and control over spatial hygiene (see SI PAK KP 7, t. u. 110, Protocolli della Commissione sanitaria, 1872).

21 E.g., Mascherpa, *Sulla Vaccinazione*, pp. 110–113.

22 Ibid., p. 103. It should be noted that smallpox not only resulted in the staggering death toll, but it also caused blindness or maimed people in some other way that rendered them incapable of work.

23 In his medical practice, the physician Anton Muznik from Gorizia described the procedure very eloquently and wrote down his clinical observations regarding its execution on a few noble children (Muznik, *Goriško podnebje*). On variolation in Istria, see especially Cigui, Le origini, pp. 265–295.

24 Foucault recognized smallpox vaccination as a new type of socio-political response to epidemics. In his opinion, smallpox signified a state "intervention," especially through prevention, and an emphasis on safety and public health (see, e.g., Thacker, *The Shadows*).

25 Cf. Muznik, *Goriško podnebje*, p. 243; Schrom Dye and Smith, Mother Love.

26 See, e.g., Kiple, *Cambridge world history*, pp. 1008–1012; Borisov, *Zgodovina medicine*, p. 245.

27 Borisov, *Zgodovina medicine*, pp. 403–404.

28 As outlined in the Italian Dictionary of Public Hygiene (1860), vaccination was initially performed by dabbing the vaccine into a small incision in the upper outer arm. Later, it became customary to make a "puncture" with a steel lancet or simply a needle. The form most often applied was the liquid vaccine, either arm-to-arm or from animal pustules. The dry powder vaccine (dried scabs) first had to be diluted in cold water on a glass plate (*Dizionario di igiene pubblica*, pp. 785–793).

29 See, e.g., Zupanič Slavec, Goriški medicus, p. 225; Borisov, *Zgodovina medicine*.

30 See also Bratož, Cepljenje proti kozam.

31 Cf. Brisky et al., Introduction.

32 Borisov, *Zgodovina medicine*, p. 405. On vaccination in Istria during the first Austrian and subsequent French sovereignty, see Cigui, Misure di profilassi.

33 Children without proof of vaccination were prohibited from entering schools and other public institutions (Zupanič Slavec, *Mlekarice*, pp. 146–147; cf. Globočnik, *Nauk slovenskim županom*).

34 "*Mentre durante il Regno d'Italia, quand'era direttore generale il Sacco, la vaccinazione formava un compit o di pura filantropia, che persone pie, ragguardevoli d'ogni classe, raccolte in Comitati provinciali si facevano scrupoloso e religioso obbligo di adempire, e lo adempivano con tanto profitto per la popolazione, appena fu*

The Austrian law, issued on November 13th, 1821, partially centralized the vaccination practice by bringing it under government control[35] and making it mandatory for physicians to obtain an additional certificate to perform the procedure. To ensure that the authorities could exert some control over the implementation of this systematic preventive measure, the law, among other things, made the use of certain social mechanisms contingent on vaccination; without it, foundling babies were not to be placed in the care of wet nurses, and unvaccinated children were not admitted to orphanages or other public and private institutions. Anyone who had not received the vaccine (or failed to prove that they had recovered from smallpox naturally by showing their scars) was denied social aid, pension, or a stipend. Furthermore, charity organizations were prohibited from extending assistance to parents who failed to demonstrate that they had recovered from smallpox or present a vaccination certificate,[36] which was a way for "the state to safeguard the money it had invested in people."[37]

Still long after it had been introduced, smallpox vaccination continued to raise controversy, a general sense of unease and mistrust, and it remained the subject of many *pro et contra* polemics. The arguments against it pointed to unreliable effects of vaccination, especially in the light of unsuccessful initial attempts, risks, and the purported possibility of contracting diseases, such as syphilis, erysipelas, and so on, coupled with moral, religious, and other kinds of prejudice for fear of the "unnatural" interfering with the human body, which became even more pronounced after the introduction of the vaccination procedure.[38]

Whereas the newly established practice of vaccination generated the fear of introducing animal matter (humanized vaccine) into the human body,[39] almost seventy years later, when these polemics were particularly fierce,[40] some recognized it (even with the vaccine harvested directly from cows) as a safer option to eliminate the purported risks of spreading certain human diseases. Suspicion that syphilis would be transmitted from foundlings whose parents came from questionable social and moral environments ("… *Hospices receiving poverty-stricken children together with those born in shame … Well, it is these wretched outcasts that must provide the lymph to vaccinate our country's population*")[41] figured as the flagship argument used by those who later championed harvesting vaccine directly from cowpox pustules because the humanized vaccine lost its effectiveness over time.[42]

In this discourse, vaccination partially coincided with what was then considered a pressing social issue and a threat that society recognized in the lower strata, the destitute mob,[43] problematizing the use of vaccine produced in social institutions, such as orphanages and foundling homes.[44] Nonetheless, the

fatta entrare dal Governo austriaco nei cancelli della burocrazia, perdette tutto il prestigio della filantropia che la faceva accetta e desiderata, perche' quei benefici Comitati dovettero lasciar luogo alle deputazioni comunali. Ond'e', che essa a questo modo divenne un pesante fardello pei medici vaccinatori, sugli omeri dei quali si fece d'allora in poi cadere tutta la responsabilità non solo dell'operazione che doveano praticare, ma ben anco dell'esito che doveano essi stessi verificare in quasi tutti i casi" (*Dizionario di igiene pubblica*, pp. 811–812).

35 The implementation of the vaccination program at regional level was entrusted to district governorships (cf. Brisky et al., Introduction, p. 86).

36 *Dizionario di igiene pubblica*, arts. 11, 13, 35, 36.

37 Kozinc, Prebolela sem črne koze, p. 12.

38 Several sources (e.g., *Kmetijske in rokodelske novice*, December 14th, 1861, and Slomšek, *Blaže ino Nežica*, p. 166) report that immediately after the vaccine was administered, some mothers sucked on their babies' arms to extract the "inserted pocks" from their bodies, believing that the vaccine would reverse the effect of baptism (cf. Bratož, Bolni otroci). Regarding Ljubljana, Vodopivec even writes about public agitation against vaccination (Vodopivec, Črne koze). At the end of the century, J. Simonič, the author of a booklet on natural remedies and prolongation of life, characterized vaccination as introducing "poison" into the body, which merely "contaminates the blood" while providing little benefit ("The substance contained in the smallpox vaccine, either taken from an animal or a human, is a dangerous poison, all the more so, if the animal or the child, from which the substance has been harvested, also harbors other pathological substances in the body.") (Simonič, *Kakó postanemo stari?*, p. 183).

39 This was, for example, stressed by the historian N. Durbach in her study on anti-vaccination propaganda in Britain, who saw one of the reasons for aversion to vaccination as an "unnatural practice" in the controversy-ridden "human/animal" antagonism. The introduction of the vaccine of animal origin into the human body signified its symbolic contamination, especially in view of the close relationship between physical and mental health (Durbach, Smallpox, pp. 207–209). The emergence of the anti-vaccination movement was triggered by John Simon, Medical Officer of Health for the City of London, who concluded his research on the spread of smallpox during the 1850s by proposing that the only way to protect the population (the community as a whole) was through a vaccination policy stipulating mandatory, universal vaccination of children, which was subsequently also incorporated into British law (Bynum, Medicina, p. 470).

40 Not only in the local context but also globally (see Agostoni, *Knowledge* (https://journals.openedition.org/nuevomundo/75397 (25. 11. 2020)).

41 "*Ospizi, ove insieme coi figli della miseria sono accolti i parti della vergogna… Ebbene questi poveri reietti sono quelli che devono furnire la linfa vaccinica per innestare la popolazione nel nostro paese!*" (*La Provincia*, May 1st, 1870, p. 517).

42 *La Provincia*, August 1st, 1872, p. 1633, Giovanni Biaggio. Even though others acknowledged that syphilis transmission during the vaccination procedure was rare and more likely to occur when applying tubes with questionable content of unknown origin than in arm-to-arm vaccination, which the physician performed with all due care (Ciatto, *Il Vaiuolo*, p. 29. Ciatto, for example, allowed for two good variants, i.e., animal and humanized, of the vaccine; in Trieste, the vaccine of animal origin was probably administered for the first time during the epidemic of 1872; see Pinguentini, Cronache, p. 37.

43 On various collective fears of the poor or on the poor seen as economic, moral, health, and other kind of threats (including as carriers of contagious diseases), see Čeč, Revščina, e.g., p. 295.

44 For example, two foundlings were mentioned during the vac-

law from 1821 stipulated that foundling hospitals as district vaccination institutions should regularly perform arm-to-arm smallpox vaccination to ensure a stable source of vaccine.[45]

The lower strata were generally considered a direct health risk[46] (as well as a moral one, owing to the strong stigma associated with contracting syphilis as a sexual transmitted disease) for purportedly contaminating vaccine recipients through the introduction of body fluids from social outcasts,[47] first passing the disease to children and subsequently on to mothers and wet nurses.

There were also other ways in which vaccination was associated with social and other, especially public institutions. As stated, before entering school, every child was required to present the vaccination certificate even years after it had been issued. However, during the variola epidemic in 1885,[48] the authorities in Trieste, for example, deemed it reasonable for schoolchildren to present a certificate of revaccination, which was to be carried out every four to five years.[49] On reopening at the end of the epidemic, access to schools was authorized to pupils aged less than ten years and holding the vaccination certificate, whereas older children were to prove having been vaccinated in the last five years or revaccinated on the outbreak of the epidemic.[50]

Whereas institutes undoubtedly ensured that vaccination was well-controlled and carried out with a great deal of consistency, getting the rest of the population to be vaccinated represented a challenge. It seems reasonable to concur that because the smallpox vaccination apparatus lacked a solid and uniform legal and institutional framework, its effectiveness depended on voluntary public participation, as studies reveal.[51] It indeed took a heterogeneous ensemble of actors, among them representatives of lay and church authorities, as well as, of course, physicians, teachers, and so on. Moreover, this process coincided with the institutionalization and centralization of the state and its public health (and social) policies or programs as well as the period of national consolidations.[52] This also explains the vast spectrum of publications propagating vaccination in the nineteenth-century Slovenian territory, encompassing everything from (popular) scientific discussions,[53] handbooks, and instructions, to moral and educational articles, didactic materials,[54] and instructive youth literature.[55] The awareness about the importance of smallpox vaccination was raised using various information channels, especially newspapers,[56] and this continued long after the vaccination practice had been established[57] and improved.

The advice to mayors, issued in 1880 and incorporating the local authorities' important endeavors to accelerate vaccination, reads as follows: "*Some have maintained not long ago that smallpox vaccination is of no use, but the experience teaches us just the opposite. Therefore, a wise mayor ought to promote this work in his municipality to the best of his abilities. Although inoculation is no longer forcibly administered, it is stipulated everywhere that it must be given to all the youth in public institutions and to all the poor that the city feeds, all soldiers, and such. Not only the mayor but also the clergy and teachers should concern themselves with notifying and announcing as they find appropriate when and where smallpox vaccination will take place, so that everyone in need of it can be there in due time.*"[58] The Slovenian press, featuring debates about vaccination, also called on the clergy, the authorities, teachers, medical experts,[59] and 'men of reason' in

cination in 1835 performed on Koper's registered children. However, the vaccine cannot have been harvested from them because they were among the last vaccinated children in the town. Besides, the district physician also used the dry powder vaccine, most probably in the initial phase of vaccination. On concern for foundlings' health, which already included vaccination in the Trieste hospital at the beginning of the century, see, e.g., Čeč, "Da bo dobro izbral", pp. 204–205.

45 *Dizionario di igiene pubblica*, art. 11.

46 What should also be borne in mind is that in some areas the poor held a vigil for the dead in exchange for a meal (see Vodopivec, Črne koze), which could have contributed to them becoming carriers of the disease.

47 An opposite rhetoric adopted at that time centered on the residents in social institutions that were exploited for harvesting the vaccine to benefit the rest of the population and on marginal social groups that were subjected to medical experimentation.

48 The smallpox outbreaks in 1884 and 1885 affected at least 1,290 persons in Trieste, with mortality among hospitalized patients soaring as high as 20% (see De Manussi, *Cenni*).

49 Pinguentini, Cronache, p. 45.

50 *Notificazione del Magistrato civico di Trieste sul vaiolo*, September 10th, 1885 (https://archiviodistatotrieste.it/documento-del-mese/notificazione-del-magistrato-civico-di-trieste-sul-vaiolo/ (25. 11. 2020)).

51 Agostoni, *Knowledge* (https://journals.openedition.org/nuevomundo/75397 (25. 11. 2020).

52 Ibid.

53 E.g., Ciatto's lecture, which was also published (Ciatto, *Il vaiuolo*), and works, such as Kern, *Nauk*, and Robida, *Zdravo telo*, p. 8.

54 E.g., *Vrtec*, March 1st, 1880, June 1st, 1885.

55 Slomšek, *Blaže ino Nežica*; Košar, *Od telesne reje otrok.*

56 See, e.g., *Slovenski narod*, September 7th, 1877; September 8th, 1877; *Kmetijske in rokodelske novice*, February 25th, 1854; September 15th, 1855; December 14th, 1861, January 7th, 1874, etc.

57 On the outbreak of the epidemic in 1872, the authorities of Trieste called several times for vaccination and revaccination (Pinguentini, Cronache, p. 36). That same year, free mass vaccination was organized in the Koper district and performed on nearly three thousand people (*La Provincia*, January 1st, 1873). The general vaccination was carried out in the municipal hall and on Saturday in the house of Mayor Cristoforo de Belli. This was published in the local press, which had by then already attained a relatively wide circulation among the (town's) population (*La Provincia*, February 1st, 1872).

58 Globočnik, *Nauk slovenskim županom*, p. 53.

59 The provincial codices from the period of the second Austrian rule provided for financial bonuses to physicians for their diligent vaccination efforts (measured above all in the num-

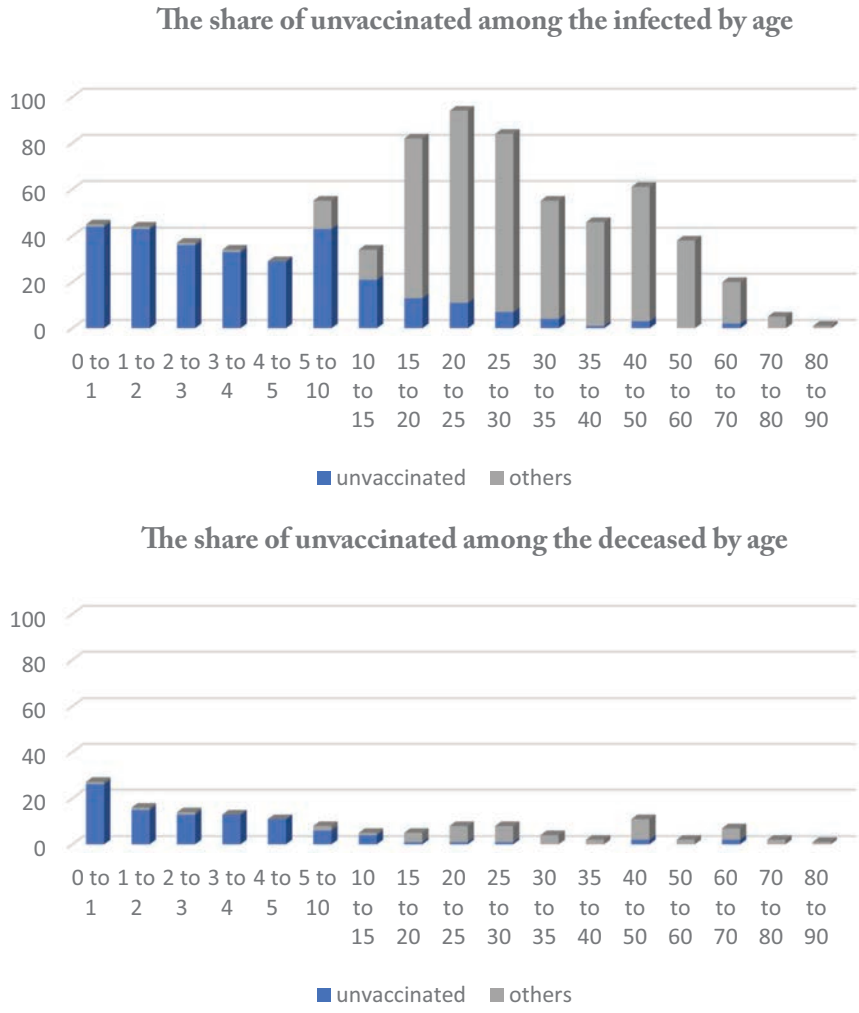

Fig. 2–3: The data on the variola epidemic in Trieste 1892–94 (source: De Manussi, Cenni).

general[60] to take part in promulgating the importance of vaccination.

This rhetoric functioned at various levels, starting with the enlightened logic to achieve the general wellbeing, which had from the eighteenth century onward guided rationalist and utilitarian measures under a special administrative discipline or "police science."[61] The same context also provided the basis for the development of medical police in terms of public health management, instituted by Johann Peter Frank.[62] His comprehensive work covered nearly all the aspects of human life associated with diseases, especially epidemics. His central argument was that a disease could not be prevented by individual medical practitioners but by the state alone, which also had a duty to ensure the wellbeing of its citizens through centralized control performed by the public sanitary service and the public health system. This, in turn, went hand in hand with the idea of constituting a numerically strong and healthy population as the foundation of a sound state[63] in accordance with the cameralist concept of increasing the country's wealth, followed by demographic growth.[64] Against this background, the population had been (and remained) the central object of the government ever since the Enlightenment.

The public discourse thus emphasized in various ways the importance of actively preventing children's diseases, while smallpox had already become ingrained with its lasting presence in the European-wide broader discourse on (children's) health protec-

ber of vaccinated persons) (cf. Brisky et al., Introduction, p. 86).

60 Kern, *Nauk*, p. 9, cf. Globočnik, *Nauk slovenskim županom*.

61 See, e.g., Čeč, Revščina, p. 294.

62 See, e.g., Bynum, Medicina, p. 473. Frank, among other things, also successfully performed several vaccination trials on children during the epidemic of 1800, when Jenner's method was still making its entrance into the world of medicine (Borisov, *Zgodovina medicine*, p. 404).

63 See Bratož, Umazane ulice; cf. Borisov, *Zgodovina medicine*, pp. 393–394.

64 E.g., Hamlin, Commentaries.

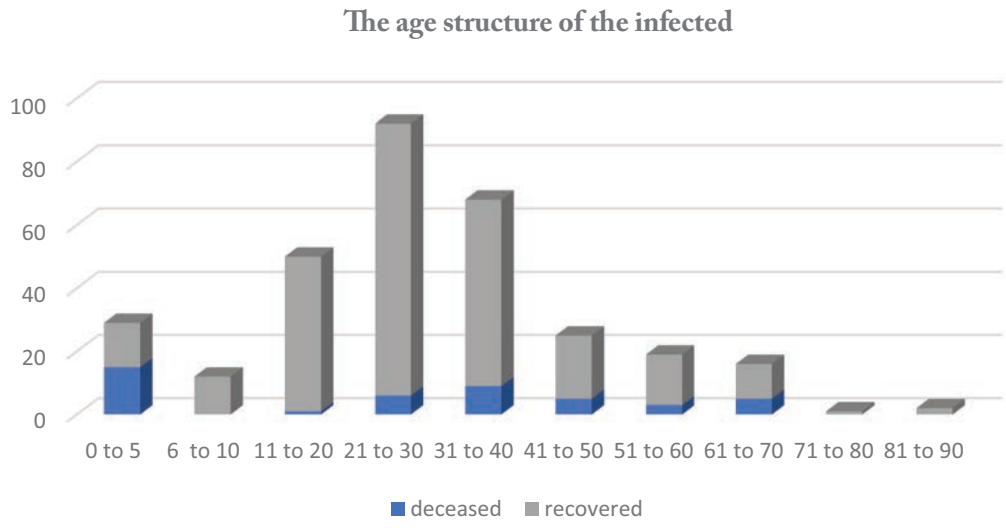

Fig. 4: The smallpox epidemic in Koper in 1872 (source: SI PAK KP 7, t. u. 110, a. u. 2122).

tion and disease prevention,[65] also in association with national rhetoric and collective responsibility for the health of young people. Although this aspect may no longer have been at the forefront in the nineteenth century, vaccination still occupied an important place in the discourse on preventive measures, health protection, and an individual's responsibility toward collective wellbeing. This period also witnessed the secularization in perceptions of health and diseases; although the Divine Will remained upheld, God was no longer conceived as the central or sole guarantor of a child's health; instead, there was a growing belief that the child's custodians or parents (especially the mother) could, at least to a certain extent, protect his or her health by taking a proactive approach.[66] This was especially reflected in the medical and specialist literature, which argued that childhood deaths were common, even expected, and at the same time maintained that the offspring[67] could be protected with proper care and prevention.[68] In the light of the objectives of the 'population policy,' part of the responsibility was therefore shifted to parents, who were to follow the government's and scientists' instructions. What remains open to debate is the extent to which such endeavors met their target.

Much can be inferred from the data collected in Trieste during the epidemic at the end of the nineteenth century. For the duration of the epidemic wave, which began at the end of 1892 and lasted until 1894, the Trieste hospital registered 767 smallpox infections. Senior doctor Alessandro De Manussi,[69] who took good note of the statistical data, also provided the number of unvaccinated patients, albeit knowing that it could not always be confirmed with certainty. This number was particularly high in the youngest age group (up to five years) and in children aged up to fifteen years, and something similar held for the share of unvaccinated persons among the deceased. To a certain degree, this may be indicative of an irregular implementation of vaccination or its inadequate scope.[70] Children aged up to ten years represented a 31.9% share among the infected, and the same age group accounted for as much as 61.8% of all deaths.

Conversely, the effectiveness of vaccination can be indirectly inferred from numerical data on morbidity that were collected during the above-mentioned epidemic in Koper in the 1870s, when (no more than) 13% of children aged up to ten years became infected (perhaps owing to regular vaccination of children in a certain period), and the age group between twenty-one and forty represented the largest segment, almost 51% of all infected.[71] The disease posed an especially serious threat to the youngest children (up to the age of five), as shown by the ratio between recoveries and deaths in this age group. Specifically, more than half of children aged up to five years died

65 For more on these issues, see Bratož, Bolni otroci.

66 Schrom Dye and Smith, Mother Love, p. 338. Nonetheless, the parents' responsibility for the health of their children was also understood in moral–religious terms (Cf. Košar, *Od telesne reje otrok*; Kern, *Nauk*, p. 9).

67 Schrom Dye and Smith, Mother Love, p. 345. Apart from the key question regarding the kind and size of audience that such literature reached, nothing is also known about the reception and interpretation of these arguments (Schrom Dye and Smith, Mother Love, p. 337).

68 See, e.g., *Kmetijske in rokodelske novice*, December 14th, 1861.

69 De Manussi, *Cenni*.

70 According to some authors, however, vaccination usually covered most, even 90% of Trieste's population, with no major resistance against this practice being reported from at least 1840 onward (Scartabellati, Visibili nemici, p. 532).

71 There was quite possibly no routine vaccination of adults to boost their immunity against smallpox. What should also be borne in mind is that this age group was mostly composed of active population, characterized by occupational mobility, which means that a part probably came from elsewhere.

from smallpox—a significant share, given that lethality in other groups did not exceed 13%.[72]

(Re)vaccination in the nineteenth-century Littoral

In the first half of the century, smallpox vaccinations in the Koper district were implemented fairly regularly among the youngest children, both in towns (Koper, Muggia) and rural areas.[73] When faced with an imminent outbreak, the authorities also revaccinated children and adults. Revaccination was particularly crucial because vaccination alone did not ensure lasting immunity to smallpox. In 1833, for example, calls for revaccination came in the wake of a smallpox outbreak in the city penitentiary,[74] where the physician Gian Andrea de Manzoni[75] eventually administered the vaccine to 126 inmates who did not reject it or were not prevented from receiving it by their health condition. In the same period, the town registered another 353 vaccinated persons, mostly adults, aged between four and forty-seven years,[76] heralding the beginning of more systematic vaccination and revaccination campaigns. Regular vaccination (of children and unvaccinated persons) also took place on an annual basis, most likely leaning on the data from parish birth registers for the previous year. The physician first performed a test pre-vaccination (a week before compiling the list of vaccinated persons)[77] and then the vaccination itself, followed by the evaluation of results a week later.[78] Because the district physician's responsibility spanned a sizeable territory, vaccination at each of the ten designated points in the countryside was carried out in a day, whereas the target population in the district seat, the town of Koper, was much bigger and required vaccination to take place every eight days over a period of four months.[79]

In 1835,[80] altogether 838 children received the vaccine in the district of Koper—192 in the town itself[81] and the rest across the wider district area. The physician administered the liquid vaccine in nearly 93% of all cases and the dry powder vaccine in others. This may suggest that he applied the dry powder vaccine first for the lack of pustules from which the liquid vaccine was collected. The majority of the forty-two children who did not receive the vaccine were too weak or too sickly to endure the procedure, and only six failed to show up for vaccination. Regular and systematic vaccination continued in midsummer; in 1850, vaccine was administered to 1,145 persons and forty-four of those who had not taken part in vaccination in the previous year. The procedure was performed in the following locations: Koper, Rižana (Lazaret), Dekani, Muggia, Osp, Loka, Kubed, Truške and Koštabona, Krkavče, Šmarje, Sv. Anton, Plavje, Ricmanje (San Giuseppe della Chiusa), Boršt (San Antonio in Bosco), Gročana (Grozzana), Podgorje, Klanec, Pomjan, Marezige, Dolina (San Dorligo della Valle), and Tinjan. In 1852, for example, fifty-seven persons remained unvaccinated from the previous year and 1,174 were revaccinated (hence, altogether 1,231). That same year, revaccination was performed as well, in the town itself strictly limited to institutions: the penitentiary (248 vaccinated), the secondary school for girls (thirty-one) and boys (fifty), the grammar school (thirty-six), and the kindergarten (twenty-seven). Outside Koper, revaccination took place in the above-listed villages; 1,956 people received the vaccine across the entire territory under the care of the district physician.[82]

Preparing for the looming epidemic threat in early 1872, the authorities in Trieste called for vaccination and revaccination and, due to poor response, repeated the call in May.[83] One Trieste physician complained about the low figures in vaccination reports, stating that about six thousand vaccinated persons amounted to no more than 5%—a drop in the ocean compared to the needs of Trieste's total population of 124,855.[84] Dismissing the official mea-

72 SI PAK KP 7, t. u. 110, a. u. 2122. See also Bratož, Cepljenje proti kozam.

73 Villages included in the vaccination of 1831 and 1832, respectively, were Čežarji, Dekani, Osp, Loka, Kubed, Movraž, Topolovec (or Gradin), Truške, and Koštabona.

74 Cf. Kramar, Epidemije, p. 110.

75 A decades-long district physician, Manzoni (1798–1872) was an ardent and several times awarded promotor of vaccination, and one of the first in the province to propose revaccination, which he also administered in Koper (SI PAK KP 304, carton 5, a. u. 9a, Correspondenza officiosa 1854–1857; SI PAK KP 304, a. u. 21).

76 SI PAK KP 304, a. u. 21; see also Bratož, Cepljenje proti kozam.

77 Unfortunately, the data do not show clearly how many persons received the vaccine and whether it was merely the vaccination of children or (also) the revaccination of adults.

78 The law of 1821 already stipulated that a physician must visit every vaccinated person at least twice within the first nine days following the vaccination to make sure that the procedure went well (*Dizionario di igiene pubblica*). However, in addition to poor interest in public vaccination campaigns, medical assessment of vaccination performance was sometimes rendered difficult by parents rejecting to vaccinate their children (see, e.g., *Kmetijske in rokodelske novice*, September 15th, 1855). This is probably also confirmed by Simon Rutar (*Samosvoje mesto Trst*, p. 147), who maintains that of altogether 6,932 vaccinated children in Istria in 1893, 31.6 % cases remained unchecked.

79 SI PAK KP 304, a. u. 21; September 1st, 1831, and September 10th, 1832.

80 SI PAK KP 304, a. u. 21.

81 Of all children vaccinated in the town, twenty-three were aged between one and five years, six between one and two weeks, and 163 between one and eleven months. In the countryside, 98.3% of vaccinated children were younger than two years, and the oldest was aged fourteen.

82 SI PAK KP 7, t. u. 19, a. u. 340.

83 Pinguentini, Cronache, p. 36.

84 Scartabellati, Visibili nemici. Of course, refusing vaccination, which had failed to produce a desirable response, also presented a problem elsewhere; for Ljubljana, see, e.g., Vodopivec, Črne koze.

Vacination of children in the countryside
(Rudolph Carl Gottfried von Geißler: Die Gartenlaube, 1867; Wikimedia Commons).

sures as clearly insufficient, city physicians organized themselves and established a special private vaccination committee[85] which performed vaccination at the Mauroner Theater both against payment[86] (five forints per individual and ten per family) and free of charge for those who demonstrated their eligibility for free vaccination with a certificate issued by the commander of their quarter. Home vaccination was also organized. Unfortunately, even this initiative failed short of producing a significant impact, registering 312 persons vaccinated against payment and no more than 152 persons receiving the vaccine free of charge.[87]

The authorities considered introducing stricter regulations to impose mandatory vaccination; however, the overall social climate made it increasingly clear that a consensus would be difficult to reach. The esteemed Trieste physician with long years of service, Alessandro Goracucchi (otherwise an adherent of the anti-contagionist theory, which rejected the idea that some diseases such as cholera were contagious), for example, opposed mandatory (re)vaccination as contrary to personal freedom and instead proposed using means of persuasion (such as a popular handbook on the benefits of vaccination).[88] Elsewhere, too, the proponents of vaccination clashed with liberal and *laissez-faire* principles, for example, J. Simon in Britain,[89] whose proposal for mandatory vaccination was believed to threat individual freedom of choice for the benefit of collective good. There is no denying that medical debates were also shaped by the economic interests, especially in Trieste as the Austrian maritime trade center, where, invested with the liberal logic, they defied quarantines and any kind of constraint. On the other hand, discordant opinions within the medical science itself were of no benefit to spreading the pro-vaccination propaganda, which often met with broad resistance as it were.

85 A similar private initiative most likely led to the vaccination of 2,100 persons in 1893, as mentioned by Rutar (*Samosvoje mesto Trst*, p. 147), in addition to 4,494 persons immunized within the framework of public vaccination.

86 Apart from resistance, this was undoubtedly another factor that importantly disincentivized many from being vaccinated. Perhaps it seems reasonable to concur that the overall willingness to take the vaccine, no matter how paradoxically it may sound, *declined* during the epidemic because of the growing fear and the increasingly entrenched prejudices (Scartabellati, Visibili nemici, p. 532).

87 Pinguentini, Cronache, p. 37.

88 Ibid., p. 39.

89 Bynum, Medicina, p. 470.

Conclusion

The article discusses the key prophylaxis to prevent smallpox infection and an early form of immunization before the discovery of viruses—vaccination, i.e., application of the cow vaccine, which was in use from the beginning of the nineteenth century. There was a notable emphasis on vaccination as a measure that prolonged longevity (or, rather, reduced mortality in children) and contributed to the general wellbeing of humankind. By creating a regulatory framework, the state sought to maximize the acceptance of this practice; however, still decades after it was introduced, vaccination continued to be targeted by a range of disincentivizing discourses (from the fear of introducing foreign matter into the human body and the fear of moral contamination, to liberal principles promulgating an individual's freedom of decision). The authorities, the clergy, and scientists therefore sought to achieve the broadest possible awareness about the necessity of vaccination through various communication channels.

The examples presented, and particularly the epidemic of 1872, which spread from its original focus in Trieste to the nearby districts (especially that of Koper) and from there to other provinces, including Carniola, also point to the widespread prevalence of smallpox epidemics in the second half of the nineteenth century and in a way testify to the inadequate prophylactic effectiveness. The latter was probably largely based on the engagement shown by health workers in key positions (district physicians), with whom lied the vaccination initiative, and in part also on the level of responsiveness among the population to many calls and the rhetoric of persuasion—an aspect that has so far received the least research attention.

More detailed vaccination records of the Koper district document systematic vaccination campaigns that took place both in cities and rural areas, where the vaccine was administered to newborns in an especially consistent manner. The first vaccination of children was regular and systematic, and the general revaccination was mainly carried out when facing an epidemic threat. The effectiveness of revaccination was much more questionable, as also confirmed by a considerable share of the infected in some young and old age groups who had been vaccinated but most likely only once, in their childhood. Yet it was precisely revaccination, for which the various authorities' public appeals were the least successful, that was most urgently needed for maintaining the population's immunity, given that the effectiveness of the vaccine wore out within ten years of the first administration.

REFERENCES

ARCHIVAL SOURCES

SI PAK KP – Pokrajinski arhiv Koper (Regional Archives of Koper)
PAK KP 7, Občina Koper [Municipality of Koper]
PAK KP 304, Družina Manzoni [Manzoni family]

ŠAK – Škofijski arhiv Koper (Diocesan Archives of Koper)
ŠAK, register of deaths (Koper), 1847–1874
ŠAK, register of deaths (Koper), 1875–1899

NEWSPAPERS

Kmetijske in rokodelske novice, 1854, 1855, 1861, 1874.
La Provincia, 1870, 1872, 1873.
Slovenski narod, 1877.
Vrtec, 1880, 1885.

LITERATURE AND PUBLISHED SOURCES

Borisov, Peter: *Zgodovina medicine: poskus sinteze medicinske misli*. Ljubljana: Cankarjeva založba, 1985.

Bratož [Železnik], Urška: Bolni otroci in starševske skrbi: odnos do otroškega zdravja na primeru preprečevanja koz v 19. stol. *Zgodovina otroštva* (eds. Aida Škoro Babić, Mateja Jeraj, Matevž Košir, Bojan Balkovec). Ljubljana: Zveza zgodovinskih društev Slovenije, 2012, pp. 438–449.

Bratož [Železnik], Urška: Cepljenje proti kozam v koprskem okraju v 30. letih 19. stoletja. *Acta medico-historica Adriatica* 12, 2014, n. 2, pp. 259–274.

Bratož [Železnik], Urška: Umazane ulice, nezrelo sadje in kužni hlapi: kaj imajo skupnega policija, zdravje in zdravstvena policija. *Acta Histriae* 18, 2010, n. 3, pp. 627–650.

Bratož, Urška: *Bledolična vsiljivka z Vzhoda: kolera v severozahodni Istri (1830–1890).* Koper: Založba Annales ZRS Koper, 2017.

Bratož, Urška: Vojna, lakota in bolezen: po sledeh španske gripe v Kopru. *Acta Histriae* 28, 2020, n. 1, pp. 21–40.

Brisky, Livia and Krželj, Vjekoslav and Lozić, Bernarda and Kuzmanić Šamija, Radenka and Brisky, Tibor: Introduction of Obligatory Vaccination Against Smallpox in Dalmatia and the City of Split During the First Half of the 19th Century. *Paediatria Croatica* 56, 2012, n. 1, pp. 83–88.

Bynum, William F.: Medicina e società. *Storia del pensiero medico occidentale. Vol. II. Dal rinascimento all'inizio dell'ottocento* (ed. Mirko Dražen Grmek). Roma, Bari: Laterza, 1996, pp. 451–492.

Ciatto, Carlo: *Il Vaiuolo e la Vaccinazione. Lezione*. Trieste: Appolonio & Caprin, 1872.

Cigui, Rino: Le origini dell'innesto profilatico del vaiolo in Istria e il ruolo del protomedico provinciale Ignazio Lotti. *Atti CRS*, XLV, 2015, pp. 265–295.

Cigui, Rino: Misure di profilassi in Istria nella prima metà del XIX secolo. La vaccinazione antivaiolosa della popolazione infantile durante la dominazione francese e austriaca. *Filii, filiae,…: položaj i uloga djece na jadranskom prostoru. 4. Istarski povijesni biennale*. Poreč, Pazin, Pula: Zavičajni muzej Poreštine, Državni arhiv, Sveučilište Jurja Dobrile, 2011, pp. 239–256.

Čeč, Dragica: »Da bo dobro izbral med tistimi potencialnimi rejniškimi starši, ki bodo najbolje izpolnjevali namene njegovega Veličanstva«: o vlogi posrednika pri oskrbi najdenčkov. *Acta Histriae* 21, 2013, n. 3, pp. 204–205.

Čeč, Dragica: Revščina kot grožnja družbenemu redu v 18. stoletju. *Acta Histriae* 24, 2016, n. 2, pp. 291–312.

De Manussi, Alessandro: *Cenni clinico-statistici sull'epidemia del vaiolo in Trieste: dal 1892 al 1894*. Trieste: Tipografia Morterra, 1895.

Dizionario di igiene pubblica e di polizia sanitaria ad uso dei medici e dei magistrati dell'ordine amministrativo, Vol. 4. Milano: G. Favale e C., 1860.

Durbach, Nadja: Smallpox, Vaccination and the Marked Body. *A Cultural History of the Human Body in the Age of Empire* (eds. Michael Sappol, Stephen P. Rice). Oxford: Berg, 2010, pp. 191–212.

Globočnik, Anton: *Nauk slovenskim županom, kakó jim je délati, kadar opravljajo domačega in izročenega podróčja dolžnósti*. Ljubljana: Klein in Kovač, 1880.

Hamlin, Christopher: Commentaries on "The Fate of the concept of Medical Police 1780–1890" by George Rosen. Commentary 01: The Fate of "The Fate of the Concept of Medical Police". *Centaurus*, vol. 50, 2008, pp. 63–69.

Kern, Vincenc: *Nauk od koze stavlenja*. Ljubljana: J. F. Eger, 1799.

Kiple, Kenneth F.: *The Cambridge world history of human disease*. Cambridge, New York, Melbourne: Cambridge University Press, 1994.

Košar, Franc: Od telesne reje otrok. *Drobtinice*, za novo leto 1852.

Kozinc, Željko: Prebolela sem črne koze. *Tovariš*, 28, 1972, n. 14, pp. 12–13.

Kramar, Janez: Epidemije v Slovenski Istri. *Zgodovinski časopis* 49, 1995, n. 1, pp. 99–111.

Lipič, Fran Vilijem: *Topografija c.-kr. deželnega glavnega mesta Ljubljane z vidika naravoslovja in medicine, zdravstvene ureditve in biostatike* (1834). Ljubljana: Znanstveno društvo za zgodovino zdravstvene kulture Slovenije, 2003.

Mascherpa, Guiseppe: *Sulla Vaccinazione Opuscolo Medico-Politico*. Pavia: Bizzoni, 1834.

Muznik, Anton: *Goriško podnebje = Clima Goritiense*. Ljubljana: Inštitut za zgodovino medicine Medicinske fakultete, Znanstveno društvo za zgodovino zdravstvene kulture Slovenije, 2000.

Pinguentini, Gianni: Cronache di 75 anni or sono il vaiuolo del 1872 a Trieste. *Porta orientale*, 1–3, 1947, pp. 36–40.

Prinzing, Friedrich: *Epidemics Resulting from Wars*. Oxford: Clarendon Press, 1916.

Resoconto sanitario dello spedale civico di Trieste per l'anno 1894: *XXII annata*. Trieste: Municipio, 1896.

Robida, Karel: *Zdravo telo nar boljši blago, alj navk zdravje ohraniti*. V Celovci: Janes Leon, 1846.

Rutar, Simon: *Samosvoje mesto Trst in mejna grofija Istra: prirodoznanski, statistični, kulturni in zgodovinski opis*. Ljubljana: Matica Slovenska, 1896.

Scartabellati, Andrea: Visibili nemici dei pitocchi. La lotta al vaiolo e al colera come laboratorio delle moderne forme di interventismo sociale. L'esperienza triestina, 1850–1886. *Igiene e Sanità Pubblica*, LXIV, 2008, n. 4, pp. 521–543.

Schrom Dye, Nancy and Smith, Daniel Blake: Mother Love and Infant Death, 1750–1920. *The Journal of American History*, vol. 73, 1986, n. 2, pp. 329–353.

Simonič, Jurij: *Kakó postanemo stari?: vodilo po katerem se doseže najvišja starost: neobhodno potrebna knjiga in svetovalec za vsacega, kdor želi biti in ostati zdrav*. Bistrica, 1893.

Slomšek, Anton Martin: *Blaže ino Nežica v nedelski šoli*. Graz: Andreja Lajkama nasledniki, 1842.

Thacker, Eugene: The Shadows of Atheology: Epidemics, Power and Life after Foucault. *Theory, Culture & Society* 26, 2009, pp. 134–152.

Travner, Vladimir: *Kuga na Slovenskem*. Ljubljana: Življenje in svet, 1934.

Vodopivec, Peter: Črne koze na Kranjskem in v Ljubljani v letih 1873/74. *Kronika* 20, 1972, n. 2, pp. 92–96.

Zupanič Slavec, Zvonka: Goriški medicus Anton Muznik in medicina. *Goriško podnebje*. Ljubljana: Inštitut za zgodovino medicine Medicinske fakultete = Institute for History of Medicine of Medical Faculty: Znanstveno društvo za zgodovino zdravstvene kulture Slovenije = Scientific Society of Slovenian Health Culture, 2000, pp. 207–231.

Zupanič Slavec, Zvonka: Mlekarice ne obolevajo za črnimi kozami. *Slovenska kronika XIX. stoletja, 1861–1883* (ur. Janez Cvirn). Ljubljana: Nova revija, 2003, pp. 146–147.

INTERNET SOURCES

Agostoni, Claudia: Knowledge, Actors and Strategies: Smallpox Vaccination in Mexico City, 1803–1872. In: Nuevo Mundo, Mundos Nuevo: https://journals.openedition.org/nuevomundo/75397

Notificazione del Magistrato civico di Trieste sul vaiolo, September 10th 1885: https://archiviodistatotrieste.it/documento-del-mese/notificazione-del-magistrato-civico-di-trieste-sul-vaiolo/

POVZETEK

Preprečevanje črnih koz v Avstrijskem primorju

Članek predstavlja izvedbo vakcinacije (cepljenja z govejo vakcino) kot ključne profilakse pri črnih kozah, ki je bila tudi v habsburških deželah v uporabi od začetka 19. stoletja. Analiza kvantitativnih podatkov za območje Avstrijskega primorja (zlasti Koper in Trst kot pomembno epidemično žarišče) kaže na obsežnost in pogostost epidemij črnih koz tudi v drugi polovici 19. stoletja, kar odpira vprašanja o obsegu in kontinuiteti izvajanja teh profilaktičnih ukrepov, na drugi pa tudi o odzivnosti prebivalstva na pozive k cepljenju.

Država je z regulativi tudi poskušala doseči čim večjo razširjenost te prakse, vendar pa so jo še dolga desetletja po njeni uvedbi spremljali različni odklonilni diskurzi. S pozivi prebivalstvu preko različnih komunikacijskih kanalov so zato oblasti, cerkev in stroka skušali ozavestiti širše množice o potrebnosti cepljenja, ki se je umeščalo v diskurz državne skrbi za dobrobit prebivalstva in zmanjševanja otroške umrljivosti. Ključnega pomena pa je bila tudi revakcinacija, saj cepljenje z govejo vakcino ni zagotavljalo trajne imunosti. Če je za obravnavano območje značilno dokaj redno in sistematično izvajanje cepljenja novorojenih otrok, katerih število je bilo mogoče natančno nadzorovati, je za splošne revakcinacije prebivalstva veljalo, da so bile izvedene predvsem ob neposrednih grožnjah epidemij, njihov domet pa je bil veliko bolj vprašljiv.

An early 19th century cartoon that reflects the fear of the effects of Jenner's vaccination (James Gillray, 1802; Wikimedia Commons)