



Ethics in the Immunization of the Cuban People against COVID-19

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Abstract

Covid-19 has raised multiple topics for reflection; among them is the problem of vaccination against such a pandemic. The article seeks to reveal that the Cuban strategy for immunizing the population against this epidemic is based on ethics, whose touchstone outlines the ethical framework that supports decision-making regarding this process and its implementation in social practice. Although immunization has its own principles and norms, in its application against this disease, due to its purposes and scope, moral principles and fundamental rights are applied specifically to benefit all people: girls, boys, the elderly, women and men. The Cuban case constitutes a benchmark to determine what is fair and what is good in safeguarding the fundamental values that are at stake and are essential for everyone, in the face of Covid-19, such as the right to life and health.

Keywords: Ethics; Social Practice; Immunization of the Cuban People against COVID-19; Justice and Equality in Access to Vaccination; Applied Ethics

Introduction

A few days after the two-year anniversary of the emergence of Covid-19, the debate on the most effective methods or protocols to face the pandemic remains open. Apparently such an epidemic caused by SARS-CoV-2 took the entire world by surprise given its high capacity to affect the stability of societies [1], productive systems, services, families and individuals. In this same sense, the spread and speed of contagion that can make traditional health systems collapse, the social and economic functioning of the countries are significant [2].

One of the issues that most focuses attention is the way in which health systems, and especially public health, react

to this novel pandemic with a high capacity for contagion and spread. Worldwide there is still no concerted and multilateral response to Covid-19; therefore, the reactions and results of nations in the confrontation with the pandemic are diverse in accordance, in one way or another, with the levels of pharmaceutical, medical, epidemiological, and sanitary development achieved and the political will for timely decision-making in the implementation of relevant health and social support actions [3].

In addition, from the human point of view, it is necessary to implement a convincing, satisfactory and rational notion of justice in the face of the pandemic that is good for all people, which gives an ethical character to this problem [4]. In the current reality, it is paradoxical that the fundamental

principles and rights, especially those of life and health, are not guaranteed for all humanity, since there is inequity in the distribution of resources against Covid-19, both between countries as inside these. In this context, it is no coincidence that sectors and population groups, with a poor socioeconomic situation, have low capacity to face the pandemic and suffer a greater proportion of its devastating effects.

The Cuban response to the pandemic has been coherent, with unity and integrity, as it is based on the contributions of the scientific community, represented by its research and technological development centers, universities, the Cuban Academy of Sciences and societies. Scientists, who have accompanied, supported and participated in a decisive way in the design, implementation and evaluation of the National Prevention and Control Plan [3]. Within this response, the vaccination of all people, without exclusions or commercial purposes, constitutes one of the measures to control the pandemic.

The article seeks to reveal that the Cuban strategy for immunizing the population against this epidemic is based on ethics, whose touchstone outlines the ethical framework that supports decision-making regarding this process and its implementation in social practice. Cuba has a robust immunization strategy that is national in scope, where it is combined with implementation in municipalities, risk groups and the entire population through a vaccination scheme. In accordance with the purposes of the text, it begins by showing that ethics is a main component in the conception of immunization of the Cuban population. Then the main manifestations, principles and ethical impacts in the Cuban strategy of immunization of the population are exposed.

Ethics: Essential Component in the Immunization of the Cuban Population

In Cuba, the immunization of the population reaches an ethical component, since it is based on the principle of justice; it should be taken as a starting point that in Cuba all people have the right to life, security, health and their integral development. Consequently, in this nation public health is a right of all people without discrimination and it is the responsibility of the State to guarantee access, gratuity and quality of care, protection and recovery services [5]. Guided in this way, health becomes a state issue insofar as its scope constitutes the responsibility of the state.

The State, through the Public Health Law, guarantees its social responsibility by establishing a single, free and universal national health system, which is based on a set of guiding principles, such as: accessibility (geographical, economic, cultural and legal), regionalization, prophylactic

orientation, active and organized participation of the population, unity of research, teaching, medical care, management, and international collaboration [3].

Primary health care constitutes the central strategy of the entire Cuban national health system; where the first link in the chain for the provision of services is constituted by the basic health team, made up of a specialist or resident in Comprehensive General Medicine and a professional or nursing technician, who together with their collaborators develop the medical care model family through the Family Doctor and Nurse Work Program, which allows them to take care of the health of the population they serve, which ranges from 140 to 180 families, without exceeding 1, 500 inhabitants [6,7].

Immunization in Cuba reaches a strategic nature, which means above all that for the advancement of society it is necessary to have a pharmaceutical, industrial, scientific, technological and innovation insurance system. The access of Cuban women and men to vaccines against Covid-19 recognizes the historical and humanist references accumulated in the future of the Cuban nation; hence it is based on ethical pivots.

In the Cuban humanist tradition, a conception of justice is constituted, which constitutes the touchstone of its conceptual and procedural elaborations, not from a hypothetical and imaginary consideration of "a natural and presocial man", but from the transformation of emancipation identified with a social state that guarantees the fundamental and inalienable rights to freedom, life and health.

The best society is designed and a concrete immunization scheme is implemented that satisfies everyone equally. Thus, with vaccines, a convincing, satisfactory and rational notion of justice materializes, based on equity in the distribution of immunogens. The sense of this distributive equity is provided by the concrete ideological referent, historically contextualized, which calls for the adhesion and the aggregation of the wills of Cubans. Although in Cuba the first case of Covid-19 was detected on March 11, 2020, the nation previously reacted to the epidemic and had prepared specific responses; in which the early effort to articulate state management and the entire society with scientific and technological management and expert knowledge is appreciated [8].

Immediately a plan of measures was drawn up, in which in one way or another, Cuban science professionals participate, they carry out the search for new scientific knowledge and explanations of the epidemiological, health, social, economic and political phenomena and events that the Covid-19 can originate. They also provide foundations

and results used in decision-making and anticipate solutions to potential problems in the probable post-Covid scenario.

In this context, the scientific-technical intelligentsia was immersed in a search that was essential: effective vaccines against the pandemic; inasmuch as it provides the essential objective element for the effective solution of the problems caused by Covid-19: the scientific knowledge specific to its object, human health and also the rest of nature. The Cuban scientific community is interested in participating, actively, in establishing social and political strategies to stop and reverse the effects of this pandemic, not only at the national level but also at the global level, especially through the immunization of all people.

The magnitude of the effects caused and the global nature of the solution proposals, have moved the critical point from the strictly technical, medical, health sphere to that of society and politics, since the solution of the problems passes through the implementation of a different developed model, outlined by a new normality, but it can only be put into practice from politics based on the science that legitimizes, supports and accompanies it. In this sense, only science contributes, together with ethics, the design of comprehensive interventions for epidemiological emergency situations, such as that caused by Covid-19. The scientific community has a leading role in education

and outreach to change the cultural patterns and social and spatial interrelationships that make the spread of the infestation. It has the technical capabilities to contribute to the improvement and development of state and non-state forms of management in the midst of the pandemic; as well as the evaluation of its health, social, epidemiological and economic effects in each territory and at the national level. As well as it can undertake legal, sociological, psychological and political studies specifically, on the effectiveness and efficacy of the norms that accompany the confrontation with Covid-19; all under strict ethical principles. Only science can provide the social focus of this pandemic as a problem that affects people organized in society, not only as a health problem; whose theoretical-methodological development interlinks medicine, public health with the social sciences and humanities, the natural, technical and exact sciences; as well as revealing the social and ethical effects of the emergence of this pandemic.

In the Cuban case, the involvement of the scientific community was demanded, specifically in the search for vaccines due to the high number of comorbidities associated with COVID-19, many of them constitute the main causes of death in the Cuban nation during the last 20 years. When the major comorbidities associated with death from Covid-19 are associated with a large number of causes of death in the country in the last twenty years (Table 1).

Causes	Years			
	2000	2016	2017	2020
	Number of deaths			
Heart disease	20 258	24 423	27 176	29 939
Malignant tumors	16 426	24 345	25 194	26 056
Cerebrovascular diseases	8 143	9 456	9 913	10 821
Influenza and pneumonia	5 735	6 481	8 120	7 011
Accidents	4 955	5 579	5 591	5 339
Chronic diseases of the lower respiratory tracks	2 347	4 170	4 438	3 510
Diseases of the arteries, arterioles and capillaries	3 687	2 654	2 938	2 792
Mellitus diabetes	1 490	2 349	2 425	2 806
Cirrhosis and other chronic liver diseases	988	1 568	1 738	2 026
Intentionally self-inflicted injuries	1 845	1 437	1 565	1 548

Table 1: Main causes of death in all ages, Years 2000, 2016, 2017, 2020.

The data in Table 1 allows to appreciate the presence of comorbidities and health conditions (heart disease, cerebrovascular diseases, influenza, pneumonia, diabetes mellitus, chronic diseases of the lower respiratory tracks, diseases of the arteries, arterioles and capillaries, cirrhosis and other chronic liver diseases) that can increase sensitivity

to get Covid-19. The management of the epidemic in Cuba has not only been effective but it should be noted when it occurs in such adverse health conditions. For a better appreciation of the reality of the pandemic in Cuba and the challenge that has been carried out by this nation, Table 2 can be consulted.

Total of Samples Made	Total of Positive Samples	% of positive Cases
11 millions 083 Thousand 208	962 Thousand 350 positives	8,68%

Table 2: Total of cases until November 28, 2021.

Accumulated Cases	Total of people Recovered	% of People Recovered	Hospitalized	Stable Clinical Evolution	25 Patients are in Intensive Care	
962 Thousand 350 Positives	953 Thousand 130*	99%	863	838	13 critical	12 Seriously

Table 3: Evolution of accumulated cases until November 28, 2021.

*Two evacuated and 55 returned to their countries are excluded.

A comparative analysis between Cuba, the Americas, and the World shows the pandemic degree of affectation in these contexts. In Cuba, a better result is observed taking

into account lethality and the percent of people recovered (Table 4).

Indicator	World	The Americas	Cuba
Diagnosed cases	261 millions 657 Thousand 48	97 millions 707 Thousand 16	962 Thousand 350
Active cases	20 millions 114 Thousand 711	10 millions 679 Thousand 372	863
Deceased	5 millions 216 Thousand 375	2 millions 370 Thousand 802	8 300
Lethality	1,99%	2,43%	0,86%
% of people recovered	90,3%	86,6%	99%

Table 4: Comparison: Cuba/the Americas/the World until November 28, 2021.

This vision from science research to Covid-19 and its effects on current reality must be carried out taking into account several ethical assumptions:

- Comprehensive view from various approaches: multidisciplinary, interdisciplinary and transdisciplinary approach, considering the new normal in political, economic and social processes; as well as consistently applying the gender approach, inter-sectional approach and rights approach;
- Development of purposeful and transformative research on the reality altered by this pandemic;
- Novel methodological proposals with a prospective and forecasting vision;
- Development of research evaluating regulations, measures and social policies associated with the confrontation with Covid-19 and during the post-Covid recovery phases and the new normality;
- Cross-sectional analysis of the effects, taking into account the social differentials of the population.

Ethical Immunization Strategy: The Case of Cuba

The immunization of the Cuban population against Covid-19 reaches a moral content, while access to vaccines without exclusions is guaranteed. This is not solved from

an abstract definition of fairness, since what is understood as fair is combined, at the same time, with what is good for the entire nation, for the entire historically determined community. The ethical character of this process projects a humanistic ethic that not only assumes principles but also the necessary values or virtues that configure the character of the really existing people who participate, accompany and lead the entire vaccination strategy.

The scientific community, generator of the vaccines against Covid-19, the medical and nursing staff and the rest of the people who ensure the vaccination process carry the values or essential virtues to gain the trust of the rest of the community, without them the social and moral cohesion indispensable to coexist fairly could not be achieved, nor could the high rates of vaccinated population be achieved in a short time. Equity in access to vaccines in Cuba is a shared equity, to achieve it; a consensus is obtained regarding the sense of how good it is for society to achieve immunization of the entire population who selected for the vaccine.

The notion of good is condition to decide what is fair in the treatment of Cuban men and women. The solidarity, dedication, altruism and sensitivity demonstrated in Cuba shows that the moral roots of the Cuban people are deep due to their sustainability over time and the influence they

exert on the behavior and performance of health personnel and citizens who go to vaccination centers in a voluntary way. Although it is true the criteria around the relationship between ethics and immunization has varied according to doctrinal referents and socio-historical circumstances. Ethics by itself, behind the back of access to immunization, is ineffective in the practical order.

The advancement of the human condition requires, above all, the health of each and every one, without this premise not all people would achieve a dignified life. The social extension of the moral dimension, among people, necessarily passes through access to the products achieved to face Covid-19. In keeping with this specificity, ethics is justified in serving the immunization of the population.

On the other hand, immunization in any society has had an end in itself (there is no immunization for immunization). If this is valid in general, it must necessarily be valid for an immunization such as that required and demanded by the Cuban people that serve radical social and human objectives. In Cuba, ethics is based on the immunization of the population and such immunization points towards supreme ends that have ethical foundations. It is well-understood that ethics without the immunization of everyone is sterile, and more so in the case of Covid-19, immunization without ethics becomes absolutely incomplete, exclusive and blind.

The purpose of achieving the immunization of the entire population responds to the demands and urgencies that the duty of humanity demands, especially since it is the most precious of rights: the right to life. If this indisputable truth is taken into account, it is concluded that the best immunization does not constitute an end; it becomes a means in achieving the humanistic objectives that characterize the Cuban social project. Love of others, the search for human improvement, the realization of the common good, treating and being treated as human beings are the motives for the action carried out by the scientific community that produces vaccines, the medical and insurance personnel that apply vaccination.

Since the application of vaccines against Covid-19 contains the direct action of health personnel on patients, the informed consent process must be carried out, in which the health professional makes a proposal for a medical plan: informs risks, benefits and requests authorization to attend emergencies derived from the authorized act; followed by the acceptance or rejection and signature of the patient (or his/her representative if necessary), respecting the requirements, form and content established by law. It is agreed that informed consent is a legal and ethical requirement in the doctor-patient relationship in all circumstances, including the difficult conditions of the Covid-19 pandemic, both in

the diagnosis, treatment, and in the investigations that are carried out [9].

In Cuba, access to vaccination against the pandemic is a voluntary and individual process and like any health intervention that carries a risk is preceded by informed consent, for this reason it is sought that the majority of the population is objectively informed so that they can decide responsibly to participate in this important process, which includes the study of vaccine candidates and the results in the application of vaccines to the population [10].

From multiple information and communication platforms, various authorities, actors from the scientific community and health personnel have provided the population with the necessary information on everything related to the epidemiology of the pandemic, types of transmission, period of incubation and transmissibility. As well as each result of the health intervention, intervention study and clinical trials, the mass vaccination, that is, of each stage of the immunization strategy of the population against Covid-19.

In addition, from the communities to the national level, dialogue is promoted between health professionals and the population in general due to the importance of the information provided by professionals in this sector in the final decision on vaccination. Such dialogue is based on honesty, it is continuous, not reduced to a single consultation, unequivocal and avoids confrontation, and the necessary time is invested in expanding the pertinent information of each vaccine separately, according to each identified population group that generates credibility [11].

The Cuban immunization strategy against the pandemic becomes heir to the necessary ethics of vaccination, which is expressed in the following characteristics:

- The humanism that typifies immunization has a concrete character and is based on the knowledge of the social reality that it is necessary to transform in order to arrive safely at the new normal.
- The vaccination strategy in Cuba contains informed consent, that is, the verbal or written acceptance of the person being vaccinated, as an expression of respect for the patient's autonomy.
- In the work of public health, collective interests are validated above personal interests and it is considered that the most human way of channeling the realization of individual interests, putting them in function of the collective work, at the service of all the non-commercial population.
- In the Cuban immunization strategy, faithful to its reference of ethical realization, the objectives of the changes that are needed are based on social justice,

respect for others and equal opportunities.

- Access to and enjoyment of the immunization service is thought of as the way for the growing deployment of individual security, in the face of the pandemic, in its necessary correlation with the unavoidable search for well-being in the health of all.
- In pursuit of the humanistic objectives of immunization, vaccination is made available to citizens by being provided in the communities, which expresses the vocation of public health personnel to be at the service of the will of the people and, above all, of its most vulnerable sectors and, therefore, most in need.
- The immunization of the population is conceived on the basis of two fundamental ethical pillars: the public good and the equal rights of all people and each one of them.
- The option for all people, with priority on the most

vulnerable, exposed and humble constitutes the hallmark of a conception and strategy of practical, effective immunization that aims at human improvement in a generic sense.

As part of the Cuban immunization strategy, the Cuban biotechnology industry has played an essential role in the development and production of vaccines, as well as the Medicines Marketing and Distribution Company, which has taken immunogens to all corners of the national geography.

Ethics is present as long as the production of a sufficient number of vaccines is pursued so that ethical problems of distributive justice do not arise, that is, it is already ensured, by this national industry, that vaccines can be accessed without restrictions by all people (Tables 5 & 6).

Cuban Vaccines	People Vaccinated with Complete Schedule	Total Doses Administered
SOBERANA 02, SOBERANA Plus y ABDALA	9 millions 195 Thousand 366	28 millions 402 Thousand 651

Table 5: Cuban vaccines and doses administered until November 28, 2021.

With A Dose	With Two Doses	With Three Doses	With Complete Schedule	% of the Population with Complete Scheme
10 millions 163 Thousand 695*	9 millions 210 Thousand 632	8 millions 700 Thousand 644	9 millions 195 Thousand 366	82,2%

Table 6: Number of people according to the distribution of doses with Cuban vaccines until November 28, 2021.

* The first dose includes those vaccinated with SOBERANA Plus as a single dose.

Although it is true that at the beginning of vaccination, risk and vulnerable population groups were privileged, at this time, Cuba is on the way to guaranteeing universal vaccination of its population and contributing to this happening in other nations; especially, with a low level of economic development. What is striking in the Cuban case is that these efforts and results are carried out first to the population groups most at risk: health workers and students, people over 60 years of age and those who suffer associated comorbidities, guaranteeing in a way effective social justice. Second, the immunization is made from a country with scarce economic resources, economically, financially and commercially blocked by the main world power.

This question of the distribution of vaccines is met in a sustained manner, complying with the Ethical Values regarding the allocation of scarce resources, such as vaccines for everyone [5]. Furthermore, in Cuba it is also taken into account that all interventionist trials are a matter of scientific, ethical and moral responsibility [12]. The Cuban immunization strategy combines municipalities and risk groups, where vulnerable groups with greater exposure have

been intervened, among them: health personnel, students of Medical Sciences, nephropathy patients, with kidney diseases, transplants, pregnant women, residents in nursing homes, and the elderly in psych pedagogical medical centers.

The procedures, from clinical trials to mass vaccination, have been approved by the Center for State Control of Medicines, Medical Equipment and Devices (CECMED) according to the evidence of safety and immunogenicity. This strategy includes: mass vaccination, health intervention, intervention study and clinical trials (To observe the data referring to these processes, Table 4). As on March 2021, as part of the investigations associated with the then Cuban vaccine candidates "Soberana 02" and "Abdala", in Havana, Santiago de Cuba, Granma and Guantánamo an intervention study was carried out in risk groups, health workers, BioCubaFarma and other risk groups. Also since that month on, clinical trials have been carried out with the vaccine candidates mentioned above and "Soberana Plus" (for convalescents) and implemented in selected volunteer subjects from the above mentioned territories.

In early May 2021, the Minister of Public Health (MINSAP)

approved a health intervention with Cuban vaccine candidates “Abdala” and “Soberana” 02 in risk groups and territories selected by stages. Health workers, BioCubaFarma, Medical Science Students and other risk groups participated. In the case of mass vaccination, CECMED granted the Emergency Authorization use (AUE) to the Cuban vaccine “Abdala” 50 µg on July 9 of this year once it has been confirmed that the requirements and parameters demanded in terms of quality, safety and efficacy for this type of procedure were met. The owner of “Abdala” is the Center for Genetic Engineering and Biotechnology (CIGB).

On August 20, this Center decided to grant AUE to the Cuban vaccines “Soberana 02” and “Soberana Plus”, whose

owner is the Finlay Vaccine Institute. It began on July 29, 2021 and had the participation of the population over 19 years of age from territories with epidemiological risk and risk groups at the level of all provinces and the pediatric population from 2 to 18 years of age throughout the country. Mass vaccination was developed in an accelerated manner, based on the experience accumulated by MINSAP, and it was applied through the campaign route, which in the case of Primary Health Care dates back to 1962 when the first vaccination campaign began in the country. Cuba carried out the first National Children Campaign against COVID-19, which represents an advance in the country immunization strategy and in the protection, in the shortest possible time, of our children and adolescents (Table 7).

Vaccination Process	With A Dose	With Two Doses	With Three Doses	With Complete Schedule
Mass vaccination	6 millions 597 Thousand 215	5 millions 757 Thousand 588	5 millions 381 Thousand 399	5 millions 862 Thousand 974
Health intervention	3 millions 305 Thousand 344	3 millions 213 Thousand 612	3 millions 099 Thousand 283	3 millions 099 Thousand 283
Intervention study	168 Thousand 461	150 Thousand 928	134 thousand 675	147 thousand 222
Clinical trials	92 Thousand 675	88 Thousand 504	85 Thousand 287	85 Thousand 887

Table 7: Total doses administered during Vaccination process until November 28, 2021.

From November on, the Strategy for the reinforcement of the vaccines applied before was approved, therefore the Clinical Study was developed with vaccine candidates (SOBERANA 01 and Mambisa) and a vaccination with a fourth dose for workers of the health care system and risk groups began (Table 8).

Total of People With The Reinforcement Doses	As Part of The Clinical Study	As Part of The Reinforcement Vaccination
327 thousand 680	60 thousand 783	266 thousand 897

Table 8: Total of people with the reinforcement doses until November 28, 2021.

Conclusion

The Cuban immunization strategy assumes as a starting point that ethics, due to its specificity, must be at the service of the vaccination of all people. This relationship of service is identified in ethics, developing its guiding and instrumental role over the vaccination activity itself, promoting means that ensure the fulfillment of humanistic purposes that ethics should take into account.

An immunization can be ethically condemned when it

appeals to certain means that the ends cannot justify. In Cuba, this immunization is related, consequently, both from ethics and from the immunization of the entire population to the supreme objective of: the social improvement of humanity through the achievement of health and a dignified life for all.

Cuba registers a high number of doses administered with Cuban vaccines; the strategy is based on an immunization in stages, with optimal levels of safety and effectiveness, consisting on a complete three-dose schedule. The number of vaccinated people is largely due to mass vaccination, health intervention, intervention study and clinical trials in risk groups and territories. Processes that due to the logistical complexity and the volume of the population to be immunized, have led to a system approach to this matter.

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