

The COVID-19 pandemic is the most significant global public health challenge since World War II. As of March 19, 2024, more than 1.5 years after the first case of COVID-19 infection. First reported in China, worldwide, there have been more than 704.2 million people infected with the virus, and more than 7 million people have died from the COVID-19 pandemic (Worldometer, 2024). The COVID-19 pandemic not only impacts the health and claims millions of lives but also leads to profound and enduring negative repercussions worldwide across various economic, political, cultural, and societal dimensions. Global GDP growth deceleration forecasts a decline from 3.1% in 2022 to 2.2% in 2023 (UNCTAD, 2023). Ninety million people worldwide will be pushed into poverty due to the shock of the economic crisis due to the pandemic (Mahler, Yonzan, & Lakner, 2022). According to the 2023 report of the International Labor Organization on World Employment and Social Outlook, millions still struggle to secure stable employment despite some economic recovery since 2021 (International Labour Organization, 2023). Approximately 2 billion people work in the informal sector, while around 214 million workers live in extreme poverty, earning less than \$1.90 a day. Additionally, over 4 billion individuals lack any form of social protection. This unprecedented pandemic has forced over 1.5 billion students and young people out of schools and universities due to widespread lockdowns (UNDP, 2022). By the end of 2022, close to 258 million individuals across 58 countries/territories experienced crisis or more severe levels of acute food insecurity (FSIN and Global Network Against Food Crises, 2023).

As of March 20, 2024, Vietnam had 11,619,990 infections and 43,206 deaths (Ministry of Health, 2024). Due to prompt and stringent measures implemented from the onset of the outbreak, such as enforcing social distancing protocols and imposing nationwide lockdowns, as well as restricting international travel by closing air and land borders to tourists, establishing healthcare protocols, mandating centralized quarantine for returning individuals from epidemic zones globally, ensuring thorough isolation and treatment of virus-infected cases in designated medical facilities, rigorously tracing contacts of infected individuals, prioritizing testing for all contact cases, and promoting mask-wearing and social distancing, Vietnam has been recognized by the global community as a notable success story in containing the virus spread.

The Chief Representatives of KOICA and UNICEF in Vietnam appreciated Vietnam's efforts in COVID-19 prevention over the years (Government, 2022). Mr. Cho Han Deog acknowledged that despite the challenges faced globally due to new virus strains, Vietnam effectively prevented the epidemic through solid leadership, governmental capacity, medical staff dedication, and public unity. While Vietnam could not produce vaccines directly, it focused on prevention in the early stage and later sought international support for vaccination, resulting in a high vaccination rate nationwide by 2021.

In recent times, the health sector has focused all resources and drastically deployed urgent measures to prevent and control epidemics, including developing and issuing professional guidelines to effectively carry out the work tracing, testing, organizing reception and treatment stratification, deploying remote medical examination and treatment consultation, strengthening emergency capacity and treatment for patients with COVID-19, including successfully treating many cases of serious illness. Medical officers and staff are not afraid of difficulties, hardships,

and dangers, always leading in preventing and fighting the COVID-19 epidemic. The Government has promptly directed the health sector to coordinate with other ministries and sectors to deploy many solutions to ensure enough vaccine supply for the people in a situation where vaccine supply is very scarce. Vietnam has injected more than 266.5 million doses of COVID-19 vaccine and is one of the countries with the highest COVID-19 vaccine coverage rate in the world. The primary vaccination rate for people aged 12 years and older is approximately 100%. The third vaccination rate for children from 12 to under 18 years old reached 69.4%; The third vaccination rate for people 18 years and older reached 82.1%; rate of fourth vaccination for people aged 18 years and older at high risk reached 89.6%; The rate of first and second vaccinations for children from 5 to under 12 years old reached 92.5% and 76.7% (based on a report by the Central Institute of Hygiene and Epidemiology) (Medinet, 2023).

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, poses a significant global health challenge, disrupting communities worldwide. Vaccination plays a crucial role in controlling the spread of the virus, serving as a vital tool in combating COVID-19. A vaccine stimulates the immune system to protect against a specific disease, such as COVID-19, thereby preventing infection. Despite the availability of over 120 COVID-19 vaccines undergoing human clinical trials and at least 8 receiving full approval, global vaccination efforts face hurdles due to community acceptance (Hassan et al., 2021). More than half of the world's population remains unvaccinated, particularly in low- and middle-income countries where vaccine coverage remains below 20%. Understanding the factors influencing vaccine acceptance is essential to the success of vaccination programs. Vaccine acceptance refers to the voluntary approval and receipt of vaccines without objection. Recent studies have investigated COVID-19 vaccine acceptance rates and the factors influencing individuals' willingness to accept vaccination.

However, vaccine hesitancy refers to the reluctance or refusal to accept vaccines despite their availability (Gur, 2019). It can stem from various factors, including concerns about vaccine safety, effectiveness, religious or philosophical beliefs, mistrust in healthcare systems, misinformation, or complacency about the risks of vaccine-preventable diseases. However, vaccine hesitancy undermines efforts to control and prevent infectious diseases, jeopardizing individual and public health. Addressing vaccine hesitancy requires a multi-faceted approach involving education, communication, community engagement, and policy interventions to promote vaccine acceptance and protect public health (Cohen, 2010). Individual health risks are one of the most significant implications of vaccine hesitancy for individuals and public health governance. Vaccine-hesitant individuals are at increased risk of contracting vaccine-preventable diseases and experiencing severe complications or death (Gur, 2019; Ropeik, 2013; Cohen, 2010). It is particularly true for vulnerable populations such as children, the elderly, and those with compromised immune systems.

Moreover, reluctance towards vaccination can diminish vaccination rates within communities, leading to decreased herd immunity. This elevates the likelihood of outbreaks and expedites the transmission of infectious diseases, impacting both vaccinated and unvaccinated individuals. Vaccine hesitancy, the delay in accepting or refusing vaccines despite their availability, has

emerged as a notable public health issue (Gür, 2019; Dubé, 2013). Such hesitancy not only heightens the susceptibility of individuals to vaccine-preventable diseases but also endangers the community by fostering the propagation of infectious diseases (Siddiqui, 2013). This issue is especially worrisome in the COVID-19 pandemic, where vaccine hesitancy might impede endeavors to curb the virus's spread (Coustasse, 2020). Consequently, addressing vaccine hesitancy is imperative to safeguard both vaccinated and unvaccinated individuals from the perils associated with infectious diseases.

Individuals who choose not to get vaccinated are at increased risk of contracting COVID-19 and experiencing severe illness or complications. This endangers their health and places strain on healthcare systems and resources. Chung (2022) said that vaccination can significantly reduce the risk of contracting COVID-19, especially for those in contact with infected individuals. However, the decision not to get vaccinated can increase the likelihood of severe illness and complications, particularly for those who have previously been asymptotically infected (Bossche, 2021). Indeed, if this scenario continues, outbreaks of vaccine-preventable diseases pose a significant burden on healthcare systems, leading to increased hospitalizations, healthcare costs, and potential shortages of medical resources (Ozawa, 2016; Tavoschi, 2019).

Persistent COVID-19 vaccine hesitancy poses a significant obstacle to global economic recovery and the ongoing fight against the pandemic (Rawlings, 2022; Gudina, 2022; Omeiza, 2022). This reluctance not only obstructs the achievement of herd immunity and increases the risk of vaccine-resistant virus strains but also prolongs disruptions to economies, particularly in low-income countries, exacerbating existing issues such as unemployment and food insecurity (Rawlings, 2022; Gudina, 2022; Omeiza, 2022). This hesitancy not only prolongs the need for non-pharmaceutical interventions, such as lockdowns and travel restrictions but also contributes to the evolution of new virus variants (Gudina, 2022; Rawlings, 2022). Addressing vaccine hesitancy through targeted interventions and equitable distribution is crucial to mitigating these economic and public health risks (Gudina, 2022; Omeiza, 2022), as it prolongs the duration of the pandemic and hampers efforts to achieve widespread vaccination coverage (Mesa, 2021; Wiysonge, 2021). Urgent action is needed to combat vaccine hesitancy and minimize the economic and health consequences of the ongoing COVID-19 Crisis.

Regarding public health governance, vaccine hesitancy challenges the effectiveness of public health policies and vaccination programs. In Vietnam, this hesitancy is particularly prevalent among parents, with concerns about side effects and vaccine safety being critical reasons for their reluctance (Huynh, 2022). To address this issue, evidence-based strategies at the clinical level, such as communication and behavior change interventions, are crucial (Rutten, 2020). However, it is essential to note that hesitancy is not solely driven by misinformation, and a more nuanced approach is needed to build confidence in COVID-19 vaccination (Hrynicky, 2020). Therefore, governments and public health authorities generally must implement targeted communication strategies, address misinformation, strengthen vaccination infrastructure, and ensure equitable vaccine access.

Overall, vaccine hesitancy undermines efforts to control and prevent infectious diseases, jeopardizing both individual and public health. Addressing vaccine hesitancy requires a multi-

faceted approach involving education, communication, community engagement, and policy interventions to promote vaccine acceptance and protect public health.

In Vietnam, a few studies showed that vaccine hesitancy significantly affects the immune system in the community. To and Phung (2023) conducted a cross-sectional descriptive investigation in Phuoc Long commune, Bac Lieu province, assessing knowledge, attitudes, and vaccine coverage related to COVID-19. Findings revealed suboptimal knowledge and attitudes towards COVID-19 vaccination, with only 56% of participants receiving a total vaccine dose. The study concluded the need for interventions to enhance the population's knowledge, attitudes, and vaccination practices.

In research on "COVID-19 Vaccine Acceptance in Vietnam: An Online Cross-Sectional Study" (Ha et al., 2022), the authors said that COVID-19 vaccination has emerged as a critical global priority in combating the pandemic; however, vaccine hesitancy among communities poses a significant obstacle to achieving herd immunity worldwide. With its dense population of approximately 98 million and limited healthcare resources, Vietnam faces a considerable risk of COVID-19 transmission. While the country has implemented public health measures such as hand hygiene, mask-wearing, and lockdowns, long-term strategies necessitate developing and distributing effective vaccines. Despite efforts to increase vaccine accessibility, Vietnam's vaccine coverage remains relatively low due to resource constraints. This study aimed to assess COVID-19 vaccine acceptance and community concerns in Vietnam. Conducted from May 12 to 30, 2021, the cross-sectional study surveyed 3954 Vietnamese adults online. Statistical analyses revealed factors associated with vaccine acceptance. Most participants were females aged 18 to 49, residing in urban areas, and engaged in various occupations, including students and healthcare workers. Notably, a significant proportion reported chronic diseases or allergic histories.

Huynh et al. (2022) investigated determinants of COVID-19 vaccine hesitancy among parents in Ho Chi Minh City, Vietnam. From January to April 2021, the cross-sectional study surveyed 1015 parents with children aged 5–17 years. Results revealed that 26.2% of parents reported vaccine hesitancy for their children, with factors such as being blue-collar workers, intending to get vaccinated themselves, having sufficient knowledge of COVID-19, and having older children with comorbidities associated with decreased hesitancy. The Health Belief Model (HBM) showed that barriers were positively correlated with parental hesitancy, while perceived susceptibility and severity of illness, vaccine benefits, and cues to action were associated with lower hesitancy. Common reasons for hesitancy included concerns about side effects and vaccine safety. The findings underscore the need for targeted health communication strategies in future vaccination campaigns to address parental concerns and effectively manage the pandemic.

Predictors of COVID-19 vaccine acceptability among health professions students in Vietnam (Le et al., 2022): COVID-19 vaccine hesitancy among healthcare students is a global concern, given their exposure to SARS-CoV-2 during clinical training. Using the Health Belief Model, this study investigated predictors of vaccine acceptance among Vietnamese healthcare students. A survey of 911 participants conducted from April to June 2021 found acceptance, hesitancy, and refusal rates at 58%, 40.4%, and 1.5%, respectively. Factors influencing hesitancy included recent flu shots and

beliefs about vaccine efficacy. Concerns about adverse effects and death were predictors of refusal, while cues to action from mass media negatively impacted acceptance. Addressing misinformation and enhancing vaccine safety education could increase acceptance rates.

Vaccination hesitancy, flagged by the World Health Organization, poses a significant challenge, especially during epidemics like COVID-19, hindering herd immunity and prolonging vaccination efforts. A study in Dich Vong ward aimed to assess COVID-19 vaccine hesitancy and malnutrition-related factors (Nguyen, 2022). Findings reveal a 30.1% malnutrition rate among residents. Logistic regression highlights the relationship between occupational factors, local COVID-19 cases, and attitudes towards vaccine fees with malnutrition rates. Qualitative analysis identifies key refusal factors for educational level, online sales profession, income-health impact, misinformation, and vaccine origin. Recommendations stress the need for a communication program to disseminate accurate vaccine information through healthcare workers and government channels.

However, Thanh Nhiem et al. (2021) surveyed health career students from various universities in Vietnam, reporting an acceptance rate of 84.3% for COVID-19 vaccination. Factors influencing acceptance included years of schooling, health status, allergy history, risk perception for COVID-19, and elements of the health belief model. Positive perceptions of vaccine benefits and motivating factors increased vaccine acceptance, while perceived barriers reduced it. The study recommended communication strategies emphasizing the effectiveness and safety of COVID-19 vaccines and suggested further research to explore vaccination rates among different student groups.

Another research, "*Learning the COVID-19 vaccination participation in developing countries: Evidence from Vietnam\_ Determinants of COVID-19 vaccine hesitancy and implications for improving vaccination strategy and public health Policy*" Khuc (2021) aims to explore residents' perceptions of COVID-19 vaccines and factors influencing their intention to participate in vaccination in the Red River Delta, Vietnam. Utilizing an online survey method due to social distancing measures, data from household surveys across ten provinces were collected and analyzed using a multinomial logit econometric model. Based on 1116 observations, the findings reveal that most respondents perceive COVID-19 as a significant threat and recognize the importance of vaccines in combating the pandemic. Rural residents appear to be more affected by COVID-19 compared to urban dwellers. Approximately 81.8% of respondents expressed willingness to be vaccinated, with 47.1% preferring free-of-charge vaccines and 34.7% willing to pay for them. Conversely, vaccine hesitancy was reported by 17.4% of respondents, while only 0.8% expressed outright refusal. Furthermore, the empirical results from the multinomial logit model suggest that individuals' perceptions of vaccine importance and side effects significantly influence their decision to refuse vaccination.

Between May 15, 2021, and June 16, 2021, a research team led by Ha, Dang, Pham, and Anh Van (2021) conducted a cross-sectional online survey to explore factors influencing the acceptance of COVID-19 vaccination among teachers in Vietnam. The study involved 1902 Vietnamese teachers aged 18 to 59. The primary objective was to assess the prevalence of COVID-19 vaccination acceptance among teachers in Vietnam and identify factors associated with this acceptance. The

findings revealed that 85.9% of participants were willing to receive the COVID-19 vaccine, with 69.1% indicating a willingness to cover the cost. Factors such as age, occupation as a secondary school teacher, marital status, level of education beyond undergraduate, and presence of chronic illnesses were associated with vaccine acceptance. However, no significant variations in acceptance rates were detected based on geographic location (urban or rural), gender, or ethnicity among the teachers surveyed.

Duong, A.H., & Antriandarti, E. (2022) conducted a study across four ASEAN (the Association of South East Asian Nations) countries between August and September 2021, aims to identify factors influencing COVID-19 vaccine acceptance amid varying levels of pandemic severity. Additionally, it assesses the influence of these factors on vaccine acceptance rates. The findings indicate a significant prevalence of vaccine acceptance among respondents, outnumbering those who do not accept the vaccine. Moreover, a higher proportion of respondents expressed willingness to get vaccinated in a more severe pandemic than in a less severe one. Results obtained from logistic regression analyses demonstrate that the impact of these factors on COVID-19 vaccine acceptance varies in magnitude and direction depending on the severity of the pandemic. Practical recommendations are derived from these insights to inform future strategies.

Thanh Nhiem et. Al. (2022) researched COVID-19 vaccination acceptance among health science students in Vietnam. Health science students (HSS) represent frontline healthcare providers who face potential exposure to SARS-CoV-2 while caring for infected patients. Given the critical role of vaccines in halting the pandemic, achieving high COVID-19 vaccination rates among this group is imperative. This study aimed to evaluate the acceptance of COVID-19 vaccination and its determinants among health science students in Vietnam. The research was conducted as a cross-sectional survey involving 8873 students from six health science universities in Vietnam, guided by the Health Belief Model (HBM) framework. Findings revealed that 84.3% of students accepted COVID-19 vaccines, 14.7% were undecided, and 1% declined vaccination. Acceptance determinants included academic year, self-reported health status, allergy history, risk perception susceptibility, and HBM factors such as perceived benefits and cues to action ( $p < 0.01$ ).

Conversely, perceived barriers negatively correlated with vaccine acceptance probability ( $p < 0.01$ ). These outcomes serve as empirical evidence for devising strategies to optimize vaccine uptake and enhance the success of vaccination campaigns among health science students and the wider population. The study underscores the significance of recognizing influential factors in vaccine acceptance and using them to inform planning strategies for effective vaccination initiatives targeting health science students and the broader community.

Bui, Nguyen Toan, and Nguyen Huong (2022) researched to assess the acceptance of COVID-19 vaccination in Son Tay district, Quang Ngai Province in 2022. It employed a descriptive, cross-sectional approach, combining quantitative and qualitative methods through interviews with 366 residents. The findings indicate a low level of general knowledge about COVID-19 vaccines among the community (31.7%) yet a high acceptance rate for vaccination (74.3%). While only 15.6% expressed confidence in vaccination, 85.2% were willing to receive the vaccine. Participants exhibit trust in the positive outcomes of vaccination (86.9%) and recognize its benefits (79.0%) while also accepting vaccination regulations (84.2%) despite acknowledging the risk of

adverse reactions (58.2%). Notably, nearly 88% of individuals under 30 years old express willingness to be vaccinated due to perceived benefits and adherence to regulations. The study highlights variations in vaccination acceptance based on gender, education level, ethnicity, and marital status. In conclusion, while community knowledge and confidence in COVID-19 vaccines remain limited, the acceptance rate for vaccination is relatively high, with 85.2% expressing willingness to be vaccinated. The study recommends tailored healthcare plans at the grassroots level, especially targeting ethnic communities with lower educational attainment, to enhance vaccine coverage in the new everyday context of COVID-19 prevention.

Hoang et al. (2022) assessed Vietnam's readiness to pay for COVID-19 vaccines during the fourth pandemic wave. An online survey was conducted with 2093 participants aged 18 and above without vaccination. Multivariable logistic regression was employed to identify factors associated with the willingness to pay for vaccination. Results indicate that the proportions of individuals willing to pay for the AstraZeneca, Sputnik V, and Pfizer-BioNTech vaccines were 69.6%, 70.0%, and 67.8%, respectively. Associations were found between occupation, household income, history of allergies, job changes due to COVID-19, and the willingness to pay for each vaccine type ( $p < 0.05$ ).

Nguyen et al. (2023) examined the current status and psychological attributes of pregnant women seeking COVID-19 vaccination at Hanoi Obstetrics Hospital in 2021. A cross-sectional analysis was conducted of 805 pregnant women aged 13 weeks or more registered for COVID-19 vaccination at the hospital between November 2021 and March 2022. The findings revealed that among the participants, with an average age of 29.1 years, 59.0% had already received two vaccine doses. Before vaccination, the primary concerns of pregnant women included vaccine side effects (78.5%), potential impacts on the fetus such as premature birth or miscarriage (19.8%), vaccine quality and efficacy (0.7%), risk of COVID-19 exposure in crowded settings (0.4%), facility quality (0.4%), and 0.2% expressed no specific concerns. Post-vaccination worries mainly revolved around vaccine side effects (91.5%), effects on the fetus, including stillbirth (8.0%), and vaccine quality and efficacy (0.5%). Despite apprehensions about COVID-19 vaccination during pregnancy due to limited evidence on its safety and efficacy, the vaccination rate among pregnant women in the study was notably high, with all participants receiving at least one vaccine dose.

In "*Behavioral and social drivers of COVID-19 vaccination in Vietnam: a scoping review*", Tran et al. (2023) investigated the factors influencing COVID-19 vaccine uptake in Vietnam to guide interventions for achieving national vaccination goals. Conducted between December 28, 2019, and November 28, 2022, the study analyzed 39 out of 680 records involving 224,204 participants. Results showed high adult intention for vaccination (58.0% to 98.1%) and parental willingness to vaccinate children under 11 (32.8% to 79.6%). Key drivers included perceived disease severity, vaccine benefits, healthcare worker recommendations, and positive societal perceptions. Media and healthcare workers were primary sources of vaccine information. Despite changes in transmission and deployment, uptake drivers remained consistent. The study emphasizes tailored communication strategies and considers national policies and political factors in enhancing vaccine uptake, urging further research to evaluate intervention effectiveness.

Healthcare students face a heightened risk of contracting COVID-19 while working in medical settings, and their health-related choices can significantly impact those around them. In the context of vaccine hesitancy among the population, the delay in COVID-19 vaccine acceptance among this group could hinder efforts to achieve widespread immunity against the pandemic. Diep Pham (2023) explored the prevalence of vaccine acceptance and identified factors influencing COVID-19 vaccine acceptance among Vietnamese healthcare students. A web-based survey was conducted with 384 participants. Statistical tests, including chi-square, Fisher's exact, and Mann–Whitney tests, were employed to assess associations, while binary logistic regression analysis identified potential determinants of vaccine acceptance. Results showed that 91.7% of participants accepted COVID-19 vaccination. Factors such as being a nurse or midwife, perceived normal or good health status, and knowing someone infected with COVID-19 were predictors of vaccine acceptance. Conversely, higher perceived barriers were associated with lower vaccine acceptance. The study's findings, grounded in the Health Belief Model, provide valuable insights for policymakers to design effective campaigns to increase COVID-19 vaccine acceptance among healthcare students, thereby expediting the attainment of herd immunity.

In "*Perceived Barriers and COVID-19 Vaccine Acceptance Among Health Professions Students in Vietnam*", Pham & Diep (2023) continued to show more evidence of vaccine acceptance among healthcare students. Their paper mentions that healthcare students face a heightened risk of contracting COVID-19 while working in medical settings. However, their hesitancy towards vaccination challenges achieving effective immunity against the pandemic. This research, conducted on 384 Da Nang University of Medicine Technology and Pharmacy students, investigated the obstacles influencing COVID-19 vaccine acceptance among healthcare students. The findings revealed that the primary concerns among students were potential vaccine side effects affecting daily activities, safety apprehensions, and doubts regarding vaccine effectiveness. Binomial logistic regression analysis identified worries about vaccine safety, effectiveness, and fear of needles as predictors of COVID-19 vaccine acceptance. Thus, opting for vaccines with demonstrated safety, minimal side effects, and strong efficacy could enhance the uptake of COVID-19 vaccination among healthcare students.

In contemporary times, divergent viewpoints regarding the advantages and drawbacks of COVID-19 vaccines have led to reluctance among recipients to undergo vaccination. Therefore, in "*Willingness to receive COVID-19 vaccine in relation to psychological well-being among a sample of university students in Vietnam*", Bui et al. (2023) seek to assess the attitudes of university students toward COVID-19 vaccines, preventive measures, and their psychological well-being status. It employed a cross-sectional approach involving Vietnamese students aged 18 years and above to gauge their willingness to receive the COVID-19 vaccine, adherence to preventive measures, and psychological well-being. Participants completed a questionnaire via Google Forms. Descriptive and analytical statistics were applied, with a significance level of  $p < 0.05$ . The study included 2998 randomly chosen Vietnamese participants, with a mean age of  $20.26 \pm 1.84$ . The average score for willingness to receive the COVID-19 vaccine was  $46.13 \pm 19.03$ , out of a maximum of 54.



Regarding preventive measures, the mean compliance score was  $7.15 \pm 1.98$  on a 10-point scale, with vaccination status not affecting compliance. 56.94% of participants reported average psychological well-being, while 43.06% experienced varying levels of stress, with a trend suggesting higher stress rates among medical students and those with higher educational levels. The study indicates a positive inclination among Vietnamese students towards COVID-19 vaccination and adherence to preventive measures, yet highlights the prevalence of stress among participants during the pandemic. It underscores the necessity of tailored interventions to address factors contributing to psychological well-being and related challenges amid the pandemic or its aftermath.

Nguyen et al. (2022) conducted a descriptive cross-sectional study involving 1020 Vietnamese individuals aged 18 and above from August 28 to September 7, 2021, to assess the acceptance of COVID-19 vaccination produced in Vietnam. The study found that 86.37% of participants were willing to receive vaccination with domestically manufactured vaccines. Factors influencing acceptance included age group, urban or rural residence, gender, occupation, chronic disease status, and history of allergies. Specifically, younger age, rural residence, female gender, self-employment, absence of chronic diseases, and no history of allergies were associated with higher acceptance rates. Conversely, older age, urban residence, male gender, being a civil servant, having chronic diseases, and a history of allergies were linked to lower acceptance rates. In conclusion, the study revealed a high acceptance rate for vaccinations produced in Vietnam, with significant factors affecting acceptance, including region, gender, chronic disease status, and allergy history.

Thap Nu et al. (2024) ascertained the COVID-19 vaccination acceptance rate and associated factors among breastfeeding women in Ninh Hai district, Ninh Thuan Province, in 2022. A cross-sectional approach was employed, involving 310 lactating women interviewed face-to-face using a structured questionnaire. Results revealed a COVID-19 vaccination acceptance rate of 75.8% among breastfeeding women. Factors such as education level, vaccination advice, disease knowledge, and vaccine knowledge were identified as influencing the likelihood of accepting vaccination. The study suggests intervention strategies should prioritize improving the quality of vaccination consultation services and enhancing community knowledge about COVID-19 vaccination to boost vaccine coverage.

In another context, a research on "*Developing Scale of COVID-19 Vaccine Acceptance among Students*" aimed to develop a scale to assess the acceptance of COVID-19 vaccination among students in Vietnam (To, Vo, & Nguyen, 2021). The study used qualitative and quantitative methods to construct a scale of five psychological antecedents to vaccination. The reliability and validity of the scale were evaluated, showing satisfactory results for a robust measurement tool.

Overall, these studies underscore the importance of understanding factors influencing COVID-19 vaccine acceptance among Vietnamese people and highlight the need for targeted interventions to address knowledge gaps and enhance vaccination rates.

Regarding policies, many effective measures have been implemented drastically, such as early detection, quick tracing, and strict control. Immediately after the COVID-19 vaccine became

available, Vietnam promptly and proactively took action to ensure supply and manage vaccine resources nationwide.

Reporting on the results of implementing COVID-19 epidemic prevention and control policies stipulated in Resolution No. 30, Minister of Health Dao Hong Lan said that the COVID-19 epidemic has been controlled globally, bringing the country back to a "new normal" state and contributing to economic growth and social stability (Communist Party of Vietnam, 2023). Policies to prevent and control the COVID-19 epidemic in Resolution No. 30 have been implemented synchronously, comprehensively, and unified throughout the entire political system from central to local levels.

The Government has been proactive and flexible in implementing measures outlined in Resolution No. 30, effectively managing and redirecting COVID-19 prevention and control strategies. It comes with applying various measures such as travel restrictions, social distancing, and particular medical supplies licensing and procurement mechanisms. Financial resources have been managed efficiently, with cost-saving solutions and prioritization of the state budget for epidemic prevention. Social security policies ensure support for affected individuals and groups, including tax exemptions and reductions. However, challenges remain, including delays in issuing guidelines, occasional gaps in the dissemination of information, and inconsistencies in implementing measures at the local level. Addressing these challenges requires improved coordination, timely adjustments, and transparent communication.

During the initial phase, the Government led proactive, responsible, and innovative efforts against the epidemic, earning commendations from the National Assembly. With collective national unity under Party and State guidance, various stakeholders, including government bodies, frontline workers, and volunteers, demonstrated proactive and responsible actions to combat the pandemic (Ministry of Health Portal, 2021). The Government issued timely directives prioritizing public health and socio-economic recovery.

The health sector actively addressed the pandemic through measures like contact tracing and vaccination campaigns. However, challenges persist, particularly at the grassroots level, with issues like vaccination non-compliance and inadequate testing. Government mobilization of state and social resources for epidemic prevention and support affected businesses and workers was notable. However, the necessity of gradually easing social distancing measures for long-term recovery was emphasized.

Efforts to ensure social security amidst the pandemic involved mobilizing national unity and resources, prioritizing social and food security, and supporting orphaned children. Despite successes, challenges persist, significantly impacting workers' health, income, and livelihoods, especially among vulnerable groups.

Security and order were maintained amid the pandemic, resulting in decreased crime rates, but complexities arose with the exploitation of the epidemic for personal gain. Corruption and misconduct among officials and medical staff were reported, prompting public discontent.

In education, measures were taken to safeguard students' learning rights during the pandemic, though challenges remain in ensuring the quality of online learning and preserving practical skills development for future human resources.

In conclusion, the comprehensive effort to combat the COVID-19 epidemic in Vietnam has been characterized by unified leadership, effective coordination, and widespread participation across all sectors of society. Party and State leaders have provided close supervision and direction, issuing numerous directives and mobilizing national unity to tackle the crisis. Notably, General Secretary Nguyen Phu Trong's call for unity played a crucial role in galvanizing the nation's response (NhanDan, 2023).

Besides, the National Assembly has proactively acted, swiftly enacting resolutions to provide a legal framework for epidemic prevention measures. Resolution No. 30/2021/QH15 was particularly significant, granting the Government authority to implement specific measures to address the pandemic's challenges.

Looking ahead, resolutions No. 80/2023/QH15 and 99/2023/QH15 underscore the ongoing commitment to refining policies and laws on public health and preventive medicine, ensuring readiness for future health crises.

The COVID-19 pandemic presented unprecedented challenges globally, demanding swift and strategic responses to safeguard public health, ensure social stability, and promote economic recovery. Through decisive actions adapted to evolving circumstances, Vietnam effectively contained the spread of the virus, leading to nationwide control of the epidemic. The Government's leadership, supported by the Communist Party of Vietnam, the National Assembly, and various societal stakeholders, played a pivotal role in this success.

The achievements in epidemic control have protected lives and facilitated economic stability and growth. With GDP reaching its highest level in over a decade, Vietnam is poised for socio-economic recovery and prosperity. This victory against COVID-19 underscores the strength of national unity and international cooperation, reflecting the resilience and determination of the Vietnamese people.

Angela Pratt, the World Health Organization's Representative in Vietnam, commended the decisive and resolute leadership of the Government, the Steering Committee, and other relevant authorities in this regard:

"Vietnam's approach has emerged as a paradigm for global responses to the COVID-19 pandemic. It includes early detection, thorough investigation, and efficient tracing of outbreaks alongside a strategic combination of border controls and localized containment measures. The nation boasts a highly skilled and committed medical workforce, supported by robust technological applications and concerted efforts to secure vaccines and engage the entire community" (NhanDan, 2023).

Regarding communication strategies, Thi Thu (2023) analyzed the U.S.'s vaccine diplomacy strategy, focusing on the distribution locations of donated vaccines. The study highlights the U.S.'s significant role in global vaccine production and supply. As a comprehensive partner of the U.S., Vietnam has reaped the benefits of this diplomacy, receiving substantial medical aid and vaccine donations. These contributions have been pivotal in Vietnam's fight against COVID-19. Additionally, Rana Flowers observed that with a rallying cry akin to "Fighting the epidemic is like fighting the enemy," Vietnam has mobilized the entire political system and populace to support its COVID-19 response initiatives (Government, 2023). Vietnam has conducted a vigorous communication campaign to combat the COVID-19 pandemic, providing timely, transparent, accurate, and reliable information. Indeed, effective communication is credited to the robust guidance provided by the Party, Government, and National Steering Committee, in conjunction with the engaged involvement of ministries, regional administrations, and media entities, alongside the accountable conduct of the populace.

However, this effort has been primarily driven by the country's revolutionary press, which has been dominant in disseminating official information and recommendations for epidemic prevention and control (Ministry of Industry and Trade, 2021). News agencies, newspapers, and broadcasting stations at both central and local levels have extensively covered epidemic-related topics, ensuring continuous updates and accessibility of information to the public.

Furthermore, Vietnam has effectively leveraged the communication advantages of the fourth industrial revolution. By harnessing information technology, the country swiftly developed applications to disseminate guidance on epidemic prevention, facilitate health declarations, and provide real-time updates. Vietnam pioneered electronic health declarations, and initiatives such as the nCOVI application and mobile network utilities have been widely adopted (Communist Party of Vietnam, 2020; Ministry of Science and Technology, 2020).

This comprehensive communication strategy has resulted in significant outreach, with billions of messages distributed through various telecommunications channels, including pre-call reminders to mobile subscribers—an approach unique to Vietnam. Through these efforts, the country has fostered public trust in the Government's leadership and the collective efforts of all sectors to combat the pandemic.

Besides, effective communication has played a pivotal role in Vietnam's fight against the COVID-19 epidemic. The proactive and transparent approach of the National Steering Committee for COVID-19 Prevention and Control, along with ministries, has garnered positive responses from the public. This open communication has instilled a sense of responsibility among citizens, prompting them to engage in the collective effort to combat the virus actively.

Through various channels, including social media, people have shared accurate information about epidemic prevention, expressed support for frontline workers, and condemned inappropriate behavior that undermines the fight against the virus. Moreover, citizens have creatively transformed prevention recommendations into rhymes and songs, making them more accessible and memorable.

Foreign media outlets have also played a crucial role in defending the Party's ideology and countering misinformation, bolstering public trust in the Government's pandemic response efforts. As a result of these communication efforts, Vietnam boasts the highest level of public confidence in government leadership in pandemic prevention globally.

The communication efforts in preventing COVID-19 have showcased solidarity and unity across various sectors. Journalists and healthcare workers have tirelessly worked together, with some journalists even choosing to live and work alongside medical professionals (Ministry of Industry and Trade, 2021). Families have made sacrifices, with some journalists sending their children away to aid their work. This dedication extends to journalists reporting from border areas, living in rugged conditions, and mobilizing support for epidemic prevention efforts.

Furthermore, artists and celebrities have played a vital role in rallying support through music, poetry, and concerts, fostering a sense of unity and pride among the population (NhanDan, 2021). Vietnam's innovative approach, exemplified by translating songs and organizing events, has set the trend globally.

In short, this success in communication is attributed to the strong leadership of the Party, Government, and National Steering Committee, coupled with the active participation of ministries, local authorities, and media agencies, as well as the responsible actions of the people.

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