



**International Journal of Biology, Pharmacy
and Allied Sciences (IJBPAS)**

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

PREVENTIVE MEASURES UNDERTAKEN BY GOVERNMENT AGAINST COVID-19 - A REVIEW

THEIVA CHANDRAN R¹, LAKSHMINARAYANAN A^{2*} AND ANJANEYULU K³

1: Saveetha Dental College and hospital, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai-77, Tamilnadu, India

2: Assistant Professor, Department of Pharmacology, Saveetha Dental college and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai 77, India

3: Reader, Department of Conservative Dentistry and Endodontics, Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai India

***Corresponding Author: E Mail: Dr. Lakshminarayanan Arivarsu: lakshmin.sdc@saveetha.com**

Received 19th March 2021; Revised 20th April. 2021; Accepted 19th May 2021; Available online 1st Aug. 2021

<https://doi.org/10.31032/IJBPAS/2021/10.8.1024>

ABSTRACT

COVID-19 has now been declared a pandemic. The epic Coronavirus illness 2019 (COVID-19) is brought about by SARS-CoV-2, which is the causative operator of a conceivably lethal ailment that is of incredible worldwide general wellbeing concern. The episode of COVID-19 is unleashing devastation worldwide because of deficient hazard evaluation in regards to the earnestness of the circumstance to be dealt with by governments. The COVID-19 pandemic has entered a risky new stage. When contrasted with SARS and MERS, COVID-19 has spread all the more quickly, because of expanded globalization and adjustment of the infection in each condition and nation .Slowing the spread of the COVID-19 cases will altogether decrease the strain on the legislature by restricting the quantity of individuals who are seriously debilitated by COVID-19 and need medical clinic care. Subsequently, the ongoing upheaval of COVID-19 features a pressing requirement for strategies by the government. To date, COVID - 19 has affected over 944,181 people worldwide, resulting in over 47,312 reported deaths. The world has been predicted to be affected significantly over a long time period. Our paper aims to provide detailed reporting and analyses of the present government responses to covid-19. We particularly highlight the

responses taken by the governments of different nations. We layout holes and constraints in the responses, in view of our fast examination of media substance, from government addresses and reports.

Keywords: Covid 19, pandemic, Government, policies, strategies, implement

INTRODUCTION

Coronavirus is a RNA infection that causes ailment in well evolved creatures and fowls. In individuals it causes respiratory tract diseases that can run from mellow to deadly. Corona infections establish the subfamily Ortho *Corona viridae*, in the family coronaviridae, order Nidovirales and domain Ribovirus [1, 2]. The Government's approach in prevention control of Covid-19 plays a vital role in world health. Governments Open approach share transparency, accountability and participation of Covid- 19 response

Roles of government response cover,

- i) citizen led community responses
- (ii) Tackling misinformation and disinformation online
- (iii) Participatory response strategies
- iv) Digital platforms or apps to keep citizens informed.
- v) Protecting data rights privacy from corporations since they lead many response strategies in several nations.

Park, in his article, clarifies the impact of governments over its populace health [3]. Maria Nicola, in her investigation underscores the significance of government reactions in the assurance of school and

undergraduate against CoviD-19 [4]. The article in the Guardian paper exposes the systems of Governments in giving enough food to each resident. C. Lai underscores the significance of government separation systems to forestall the spread of coviD-19.

In spite of the fact that this review talks about legislatures of every country equally, it accentuates somewhat more on Indian government than different Governments since this investigation is completed in India. This investigation clarifies the administration strategies and open reactions relating to it in every part like the Food office, movement board of trustees, training division and so on. The point of this examination is to comprehend the administration strategies, their reasons and their results in forestalling and controlling COVID-19.

Policies related to Isolation and Contact prevention

Governments uphold outskirts shut downs and travel limitations during isolation to forestall spread among nations. This approach majorly affects the monetary emergency and downturn. Such contact following systems are fruitful to defer the transmission [5].

Suggestive cases stay at home for 14 days which is required to lessen the quantity of contacts outside the family by 75% during this time frame [6]. All types of Social contact must be stayed away from by suggestive people.

People more than 10 years of age are to rehearse social distancing i.e., must keep up a 2 meter good ways from others whenever the situation allows and to abstain from get-together or congregation [5]. This measure is focused to diminish contacts by half in the working environment a reduction different contacts by 75%, while unintentionally expanding family unit contacts by 25%, Government advances numerous exercises for detached individuals like tuning in to musics, rehearsing yoga, zoomba dance and other relaxation move to forestall stress [7, 8]. Since stress assumes a significant job in psychological wellness of patients [9, 10].

Policy measures on Social Gatherings

Government activities on forbidding mass social occasions control and contain the transmission of COVID-19. Yet, it truly influences religion ceremony, martial services and memorial services. These strategies being discharged following a couple of months evade serious financial effects however a pinnacle of contamination is probably going to occur after the policies

have been dismantled [5]. This can likewise forestall spreading of Covid-19 by non - indicative patients.

Policies undertaken regarding Schools / Colleges

School closure is a significant column in successful decrease of contamination among children [6]. Assessment postponement influences the educational program and congruency of arranged timetable. These approaches majorly affect teachers as well. All schools are approached to stay shut and 25%. Colleges are permitted to stay open to treat crisis clinical conditions [11]. There is an opportunity of increment in drop out understudies after closure of schools [12]. Offspring of low pay families have nourishment inadequacy because of absence of free school dinners given to the youngsters. This has an impact on child care expenses of families under neediness.

Policies exclusively on entertainment events

The Ministry of External issues have delayed the Indian cricket tournament. Euro 2020, a football competition is delayed by a year while the end of the season games are deferred to June 2020 [13]. Australian Formula One Grand Prix is delayed and other comparable occasions in Bahrain, Vietnam are dropped until further notification .The

state governments have reported conclusion of Malls, theater are and until further notification .

Policies undertaken on food sector

Due to policies/strategies by government on the food segment, food conveyance and retailing are expected to be under strain because of individuals' alarm - purchasing and accumulating on food [14]. Food conveyance organizations are battling with unreasonable appointments, while conveyances show up after the expected time or not at all [15]. In this manner more up to date limitations are made by the legislature to give free food just to those in most prominent need [16]. These populaces incorporate high hazard to defenseless people, for example, the old who have no encouraging group of people and younger students of low salary families [17–19]. The UK government is giving free food parcels to the needy [20].

Policies related to medical science

Policies include providing protection gears, scaling medical treatments and care [21]. It includes providing a safety net to the vulnerable [22], Government creates advertisements to explain the benefits of hand sanitizer. However Considering most health care workers can't work remotely, procedures including the early improvement of viral testing for asymptomatic or

potentially bleeding edge human services is imperative [23] . these policies makes individuals in health care profession predisposed to an increased risk of viral infection which may lead to significant financial consequences in case of ailment [24]. These policies also put a lot of stress on the workers of pharmaceutical industries [25].

Government efforts in vaccine production

Governments are attempting to make vaccines for the single stranded RNA infection i.e., COVID-19. In the current situation, Indian board of Medical science have accompanied five strains of immunization which are under animal toxicity studies. There is a conspiracy that vaccines can produce apoptosis [26, 27]. Jobs involving vaccine production home an expanded danger of viral infection [28]. The Coalition for Epidemic Readiness Innovations (CEPI) is lending money related endeavours to facilitate CoviD-19 antibody improvement [29]. CEPI with association with Novavax and University of Oxford gives a store of 4.4 million dollars to create suitable arrangements for making vaccines for COVID- 19.

Policies exclusively by Indian government

The Indian government has propelled Aarogya setu, a portable application intended

to associate wellbeing administrations and the individuals of India in our joined battle against COVID -19 [30]. Automatic thermal screening and sanitisation tunnels along with skin care facilities are provided by Indian government. The situation of India is better than average when contrasted with other previously influenced nations because of careful steps [31].

Restriction in policies and strategies undertaken by government

These strategies majorly affect clinical expert particularly on dentistry and dentist as they come in direct contact with the mouth of patients suffering or expected to be suffering from Corona. Majority of dental problems require immediate treatment due to extreme pain and other factors mainly for smokers [32-34]. These policies does not concern most about the low class workers like street sweepers, park maintainers leading to contamination of common water storage areas ,public places etc and can also have a effect on the health of these people because of these contamination [35-37]. These workers in some states didn't receive any safety equipments to protect themselves during this epidemic [38]. There are no special policies for Undergraduate medical students engaged in their work thus increasing the risk of exposure to virus .Their

anxiety also increases to a certain amount which has an indirect effects on the procedures done [39]. Governments can use the advanced technology of green synthesis using nanoparticles to produce vaccines which can produce minimal side effects [40–42].

CONCLUSION

Governments can't limit passings of COVID -19 cases and the financial effect of viral spread without open help .Governments buckle down in forestalling, controlling, containing and rewarding CovID-19. Fears, new downturn, money related Collapse requires a flexible and solid Government initiative. In any case, wide holes among open and government makes the situation troublesome. Government needs open help which is regularly not gotten. Still governments are attempting to actualize strategies identifying remedial measures and exacting control measures with appropriate open reaction, Government arrangements can rebalance and re-stimulate the economy like it was before the episode.

REFERENCES

- [1] Rottier PJ. Molecular Biology and Pathogenesis of Coronaviruses. Springer Science & Business Media; 2012. 409 p.
- [2] Estola T. Coronaviruses, a New

- Group of Animal RNA Viruses [Internet]. Vol. 14, Avian Diseases. 1970. p. 330. Available from: <http://dx.doi.org/10.2307/1588476>
- [3] Polansky H, Lori G. Coronavirus disease 2019 (COVID-19): first indication of efficacy of Gene-Eden-VIR/Novirin in SARS-CoV-2 infection [Internet]. International Journal of Antimicrobial Agents. 2020. p. 105971. Available from: <http://dx.doi.org/10.1016/j.ijantimicag.2020.105971>
- [4] Shubber N, Sheppard J, Alradhawi M, Ali Y. The impacts of the novel SARS-CoV-2 outbreak on surgical oncology - A letter to the editor on “The socio-economic implications of the coronavirus and COVID-19 pandemic: A review.” Int J Surg. 2020 May 19;79:109–10.
- [5] Keeling MJ, Deirdre Hollingsworth T, Read JM. The Efficacy of Contact Tracing for the Containment of the 2019 Novel Coronavirus (COVID-19) [Internet]. Available from: <http://dx.doi.org/10.1101/2020.02.14.20023036>
- [6] Eubank S, Eckstrand I, Lewis B, Venkatramanan S, Marathe M, Barrett CL. Commentary on Ferguson, *et al.*, “Impact of Non-pharmaceutical Interventions (NPIs) to Reduce COVID-19 Mortality and Healthcare Demand.” Bull Math Biol. 2020 Apr 8;82(4):52.
- [7] Anitha R, Ashwini S. Antihyperglycemic activity of Caralluma fimbriata: An In vitro approach [Internet]. Vol. 13, Pharmacognosy Magazine. 2017. p. 499. Available from: http://dx.doi.org/10.4103/pm.pm_59_17
- [8] Ashwini S, Ezhilarasan D, Anitha R. Cytotoxic Effect of Caralluma fimbriata Against Human Colon Cancer Cells [Internet]. Vol. 9, Pharmacognosy Journal. 2017. p. 204–7. Available from: <http://dx.doi.org/10.5530/pj.2017.2.34>
- [9] Lakshmi T, Krishnan V, Rajendran R, Madhusudhanan N. Azadirachta indica: A herbal panacea in dentistry - An update. Pharmacogn Rev. 2015 Jan;9(17):41–4.
- [10] Sharma P, Mehta M, Dhanjal DS, Kaur S, Gupta G, Singh H, *et al.* Emerging trends in the novel drug delivery approaches for the treatment of lung cancer. Chem Biol

- Interact. 2019 Aug 25;309:108720.
- [11] Cauchemez S, Ferguson NM, Wachtel C, Tegnell A, Saour G, Duncan B, *et al*. Closure of schools during an influenza pandemic. *Lancet Infect Dis*. 2009 Aug;9(8):473–81.
- [12] Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C, *et al*. The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *Int J Surg*. 2020 Apr 17;78:185–93.
- [13] Parikh S, Desai M, Parikh R. *The Coronavirus: What you Need to Know about the Global Pandemic*. Penguin Random House India Private Limited; 2020. 224 p.
- [14] Wise J. MPs criticise UK government over poor transition planning [Internet]. Vol. 342, *BMJ*. 2011. p. d358–d358. Available from: <http://dx.doi.org/10.1136/bmj.d358>
- [15] Bartik TJ. What Should the Federal Government Be Doing About Urban Economic Development? [Internet]. 1994. Available from: <http://dx.doi.org/10.17848/wp94-25>
- [16] Mahase E. Covid-19: 90% of cases will hit NHS over nine week period, chief medical officer warns [Internet]. *BMJ*. 2020. p. m918. <http://dx.doi.org/10.1136/bmj.m918>
- [17] Facing the Food Shortage [Internet]. Vol. 216, *Nature*. 1967. p. 110–1. <http://dx.doi.org/10.1038/216110d0>
- [18] McNeill WH. Hunger in history food shortage, poverty and deprivation [Internet]. Vol. 15, *Food Policy*. 1990. p. 364–6. Available from: [http://dx.doi.org/10.1016/0306-9192\(90\)90083-c](http://dx.doi.org/10.1016/0306-9192(90)90083-c)
- [19] Mahase E. Covid-19: increasing demand for dialysis sparks fears of supply shortage [Internet]. *BMJ*. 2020. p. m1588. Available from: <http://dx.doi.org/10.1136/bmj.m1588>
- [20] Barrett CB. Actions now can curb food systems fallout from COVID-19 [Internet]. *Nature Food*. 2020. Available from: <http://dx.doi.org/10.1038/s43016-020-0085-y>
- [21] Qarnain SS, Muthuvel S, Bathrinath S. Review on government action plans to reduce energy consumption in buildings amid COVID-19 pandemic outbreak. *Mater Today Proc* [Internet]. 2020 May 6;

- Available from:
<http://dx.doi.org/10.1016/j.matpr.2020.04.723>
- [22] Kaufman KR, Petkova E, Bhui KS, Schulze TG. A global needs assessment in times of a global crisis: world psychiatry response to the COVID-19 pandemic [Internet]. Vol. 6, BJPsych Open. 2020. Available from:
<http://dx.doi.org/10.1192/bjo.2020.25>
- [23] Tanne JH, Hayasaki E, Zastrow M, Pulla P, Smith P, Rada AG. Covid-19: how doctors and healthcare systems are tackling coronavirus worldwide. *BMJ*. 2020 Mar 18;368:m1090.
- [24] Narain DS, Resident J, Department of Pathology, MLB Medical College, Jhansi. Corona Virus Outbreak [Internet]. Vol. 08, Journal of Medical Science And clinical Research. 2020. Available from:
<http://dx.doi.org/10.18535/jmscr/v8i4.63>
- [25] Ezhilarasan D. Oxidative stress is bane in chronic liver diseases: Clinical and experimental perspective [Internet]. Vol. 19, Arab Journal of Gastroenterology. 2018. p. 56–64. Available from:
<http://dx.doi.org/10.1016/j.ajg.2018.03.002>
- [26] Ezhilarasan D, Lakshmi T, Vijayaragavan R, Bhullar S, Rajendran R. Acacia catechu ethanolic bark extract induces apoptosis in human oral squamous carcinoma cells [Internet]. Vol. 8, Journal of Advanced Pharmaceutical Technology & Research. 2017. p. 143. Available from:
http://dx.doi.org/10.4103/japtr.japtr_73_17
- [27] Ezhilarasan D, Lakshmi T, Nagaich U, Vijayaragavan R. Acacia catechu ethanolic seed extract triggers apoptosis of SCC-25 cells [Internet]. Vol. 13, Pharmacognosy Magazine. 2017. p. 405. Available from:
http://dx.doi.org/10.4103/pm.pm_458_16
- [28] Institute of Medicine, Board on Health Promotion and Disease Prevention, Committee on Assuring the Health of the Public in the 21st Century. The Future of the Public's Health in the 21st Century. National Academies Press; 2003. 536 p.
- [29] Hoyos-Martinez A, Hoyos LR, Putra M, Armstrong AA, Rambhatla

- A, Allen-Rhoades W, *et al*. Availability of Fertility Preservation Information on the Websites of U.S. News and World Report Top-Ranked Pediatric Cancer Programs. *J Adolesc Young Adult Oncol* [Internet]. 2020 May 27; Available from: <http://dx.doi.org/10.1089/jayao.2020.0003>
- [30] United Nations. World Economic Situation and Prospects 2020. United Nations; 2020. 236 p.
- [31] Lai C-C, Shih T-P, Ko W-C, Tang H-J, Hsueh P-R. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. *Int J Antimicrob Agents*. 2020 Mar;55(3):105924.
- [32] Muthukrishnan A, Warnakulasuriya S. Oral health consequences of smokeless tobacco use. *Indian J Med Res*. 2018 Jul;148(1):35–40.
- [33] Perumalsamy H, Sankarapandian K, Veerappan K, Natarajan S, Kandaswamy N, Thangavelu L, *et al*. In silico and in vitro analysis of coumarin derivative induced anticancer effects by undergoing intrinsic pathway mediated apoptosis in human stomach cancer. *Phytomedicine*. 2018 Jul 15;46:119–30.
- [34] Mehta M, Deeksha, Tewari D, Gupta G, Awasthi R, Singh H, *et al*. Oligonucleotide therapy: An emerging focus area for drug delivery in chronic inflammatory respiratory diseases. *Chem Biol Interact*. 2019 Aug 1;308:206–15.
- [35] Manipal S, John J, Saravanan S, Arumugham I. Levels of Fluoride in Various Sources of Drinking Water Available in Chennai — A Household Survey [Internet]. Vol. 4, *Journal of Advanced Oral Research*. 2013. p. 11–4. Available from: <http://dx.doi.org/10.1177/2229411220130203>
- [36] Ezhilarasan D, Sokal E, Najimi M. Hepatic fibrosis: It is time to go with hepatic stellate cell-specific therapeutic targets. *Hepatobiliary Pancreat Dis Int*. 2018 Jun;17(3):192–7.
- [37] Gheena S, Ezhilarasan D. Syringic acid triggers reactive oxygen species-mediated cytotoxicity in HepG2 cells. *Hum Exp Toxicol*. 2019 Jun;38(6):694–702.

- [38] Menon S, Ks SD, Santhiya R, Rajeshkumar S, S VK. Selenium nanoparticles: A potent chemotherapeutic agent and an elucidation of its mechanism [Internet]. Vol. 170, Colloids and Surfaces B: Biointerfaces. 2018. p. 280–92. Available from: <http://dx.doi.org/10.1016/j.colsurfb.2018.06.006>
- [39] Rajeshkumar S, Kumar SV, Ramaiah A, Agarwal H, Lakshmi T, Roopan SM. Biosynthesis of zinc oxide nanoparticles using *Mangifera indica* leaves and evaluation of their antioxidant and cytotoxic properties in lung cancer (A549) cells. *Enzyme Microb Technol*. 2018 Oct;117:91–5.
- [40] Karthiga P, Rajeshkumar S, Annadurai G. Mechanism of Larvicidal Activity of Antimicrobial Silver Nanoparticles Synthesized Using *Garcinia mangostana* Bark Extract [Internet]. Vol. 29, Journal of Cluster Science. 2018. p. 1233–41. Available from: <http://dx.doi.org/10.1007/s10876-018-1441-z>
- [41] Rajeshkumar S, Agarwal H, Venkat Kumar S, Lakshmi T. Brassica oleracea Mediated Synthesis of Zinc Oxide Nanoparticles and its Antibacterial Activity against Pathogenic Bacteria [Internet]. Vol. 30, Asian Journal of Chemistry. 2018. p. 2711–5. Available from: <http://dx.doi.org/10.14233/ajchem.2018.21562>
- [42] Happy A, Soumya M, Venkat Kumar S, Rajeshkumar S, David Sheba R, Lakshmi T, *et al*. Phyto-assisted synthesis of zinc oxide nanoparticles using *Cassia alata* and its antibacterial activity against *Escherichia coli* [Internet]. Vol. 17, Biochemistry and Biophysics Reports. 2019. p. 208–11. Available from: <http://dx.doi.org/10.1016/j.bbrep.2019.01.002>