

Type of manuscript: **Review Article**

Covid 19 Pandemic and Rural Population

Comment [U1]: COVID

Abstract :

Corona virus infection is caused by a virus of covid 19 strain. this infection is spread by close contact with infected person and mainly due to droplets, this virus may remain alive on surfaces which was touched by an infected person so to stop its spread it was necessary to reduce human contact, for that all countries around the world including India declared complete of all places where mass people gatherings were happens. WHO announced covid 19 infection as a global pandemic and this was a global emergency required complete lockdown? This necessary lockdown was for stoppage of infection spread but it also impacted very badly on every individual's lifestyle. lockdown has huge impact on peoples in all socio-economic strata like person from metropolitan city to person in rural Indian village has suffered. Many of the peoples lost their jobs, some of businessman suffered great loss similarly peoples in rural India, those who had small businesses and shops were suffered very badly they had gone through great economic loss which leads to many other problems like poor nutrition, less availability of food and other supplies also they faced health related problems due to closer of primary health care system. India is a country, most of the economy was depend on small businesses and farming. lockdown led to inconvenience for farmers to sold their crops and material required for farming it which has huge impact on Indian economic crisis. also, the rural population which has low literacy rate have great tendency to believe on silly myths, these myths among rural population

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has been a great danger and discomfort for preventing and treating covid 19. due to poor accessibility to media and internet it was very difficult to educate the rural population about covid 19 infection the rural population was not aware about this.

Keywords: Covid-19, Corona Virus, Pandemic, Rural Population

Introduction :

Corona virus infection was first reported in Wuhan city in china, and then it spread all over the glob this is a emergency as stated by WHO. complete lockdown was declared by Indian government from march 2020 .which has impacted rural population in various ways like

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- People with small businesses in rural areas has suffered grate loss
- Poor availability of heath care system
- Various myths about corona infections
- Farmers during lockdown suffered
- Daily wedge labourers in rural areas lost their only way of income
- Many rural people working in city lost their job and return to their villages
- Poor availability of food and daily essentials
- Mental health in rural peoples during pandemic
- Education in rural children during pandemic
- No media coverage and poor access to media and information technology

Methods and material:

Data was obtained from following authors article and studies. Search included topics on “rural population affected by corona infection , farmers in India facing various challenges during covid 19 pandemic , laborers and their problems due to lockdown “ Google scholar search for related article and reference is given below for the same. Conducted a review and collected articles on rural population and pandemic and arrange them in given manner . interview of some peoples in rural India is taken . some of questioners are asked to farmers and rural population about their problems and their review is taken on lockdown situation.

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Example of questioners asked to peoples residing in rural areas

Was their easy availability of health services during lockdown periods ?

What problems they faced during lockdown ?

Was they aware about pandemic situation ?

Did they follow all precaution to prevent themselves from covid 19 infection ?

Their review about pandemic situation

The Indian government announced the lockdown on 24th march and then extended to 3rd may

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.this included complete lockdown of all the places where mass gathering of people is possible

.this complete lockdown has impacted all the peoples of various age groups and various professions

In India most of the population is settle in villages(1) and in village their infrastructure is very different from urban areas. in villages every person has its own different role like some peoples are owners of small shops some works in farm some provides different kind of services like carpenters ,electrician and daily laborers on the other hand in urban settings there is malls , super

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markets and also online shopping like options are available so urban areas are less affected during this lockdown period there was many different ways to gain daily living essentials but in case of rural setting peoples who own small shops are gone through economic burden due to lockdown situation. Farmers was unable to sell vegetables and fruits due to complete closer of markets in rural setting there is system of weekly market but to stop mass gathering this was not possible to arrange this market this lead to huge loss for farmers they were not able to sell these things in different villages because of no way for transportation .also small shop holders who sells stationary, footwear, cloths, and different less essential things are also faced economic burden because in rural areas this shops are their only source of income and they had suffered due to this lockdown situation(2) .also those had poultry farms are faced loss because of myth that corona infection is spread by meat and eggs this decrease their demand and also price of meat and eggs fall this was huge trouble to sell all these products(3) . also milk centers were shut during lockdown so the villagers are unable to sell and buy the milk and milk products . so all these peoples in villages suffer economically which was reason for cut of essentials and nutrient food from their life(4) make them more vulnerable to malnutrition and raised the chances of infection among them not only covid 19 infection but also other infection like food and water born infection raised among them. Also less awareness about different diseases like hypertension and diabetes make them more prone to get infection and raised the chances of mortality due to infection .(5)

PHC (primary health care system) is the main health care for rural areas in India and also all over the world. PHC are the cost effective and easily available for rural population .in PHC there is less no of beds because it is a small set up also there is no special laboratory for special tests, also less machineries and less trained staff to deal with pandemic like situation also there in no

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ICU setup also ventilators are not available there. PHC only provides some basic facilities like delivery, vaccination, and minor diseases with less risk are treated there. In India like country where shortage of health professional and health related machinery it is not possible to make PHC highly advanced. This is very important to prepare PHC for pandemic situations. (6) As it was stated earlier that villages are safe from pandemic but in recent period there is also raise in cases of covid 19 infection in rural areas. This is due to migration of peoples and fly in of some peoples from urban areas to rural area. so it is necessary to prepare PHC for treating and diagnosing the covid 19 infection. for this skilled professionals are should be given on PHC and along with some basic machineries to treat covid 19. (7)

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In rural India literacy rate is very low as compared to cities and urban areas, this illiterate peoples have more tendency to believe on illogical and dangerous myths about any thing same has happened in case of covid 19 infection, rural peoples easily believed on myths about covid 19 infection for its prevention and treatment which was very harmful and also dangerous for health some of the myths which are very popular among villagers are, ayurvedic herbs (8) can treat covid infection this made misuse of many herbs which may be hazardous for health. Eating ginger can prevent covid infection was only a myth it dose not have any effect on covid 19 infection. also some herbal kadha prepared of home remedies was not effective for preventing covid 19 but this kadha may raise heat in body has its own disadvantages, in India ayurveda is practiced since many years and this made people to believe that ayurvedic herbs can treat any kind of disease but there was no such a evidence that ayurvedic medicine can treat or prevent covid 19 infection. But due to this myth that ayurvedic medicine can bust immunity and can help to decrease chance of covid 19 infection many business who produce this kind of herbs got profit. this was only a myth in rural areas that these herbs can bust immunity and prevent covid

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infection , also in initial days it was believed that meat cause corona infection and this lead to huge loss for poultry industries , . And some people believes that drinking alcohol can kill the virus and protect them from infection . but alcohol itself cause harmful side effects on health . also spraying bleach on your body surface will protect you against covid 19 but it can be harmful and there is no such evidence that applying disinfectant on body can protect from covid virus , do not apply alcohol chlorine or any other disinfectant on body surface because these are irritants and can cause dermatitis or any other dangerous reaction on skin also its injection can lead to death due to oral burns and git burn . also it is believed that drinking ethanol and other chemical disinfectant can reduce the chance of infection but this is not true it is dangerous to drink such disinfectants .can cause mouth and throat burns. Rural areas where more chances of believing these myths cause many cases of drinking sanitizers and disinfectants. Animals and pets can spread the coronavirus , some of the country reported pets and animals developed covid 19 infection . in most of the cases , the pets become infected after the contact of people who had covid 19 infection . according to the CDC, there is no evidence that animals can transmit the infection or get infected by covid 19 . scientists are still studying about role of animals in these infection . because of this reason many pets are suffered people fear to keep dog in their home and other pets many cases of deaths and missing are recorded during this period of pandemic. (9) 65% population of India reside in rural area and most of this population is depend on agriculture and agriculture related services for their daily livelihood . During this period of pandemic all the markets where these people can sell their crops and buy are closed this has made huge impact on rural economy . and about 75% children of India is from rural area this disturbance in rural economy has direct impact on families and also on the children in their family. India in village has affected very badly during this pandemic. Daily wage laborer are in great worry because of

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loss of job and work loss land them in economic stress lots of people don't have any kind of saving for this kind of emergency this land them in situation like hunger and the children of this household are affected more they are suffered from malnutrition because in growing age children require various nutritional food . . in many village children get their nutrition from school and anganwadi. Children in rural areas where online lectures is foreign thing for them and it is really not possible for these children to complete their studies because of poor connectivity of internet services. and poor knowledge about the online lectures . also most of the poor child can not afford to buy a cell phone or a laptop for his studies . this cause most of the students to stop their studies and increase the school dropouts rate. Children in villages have habit of studying from live classes and most of them understand things only this way and this lockdown situation made them to learn poorly this affected the all school going children. (10) Closes of schools in rural area has land many children in huge worry because many children in our country get their lunch in school for free which is very essential for these child's nutritional state and growth also . Because of cut down of midday meal which is very important for economically poor children this affected their nutrition and health .and in many schools government arrange vaccination programs these programs are adversely affected during this lockdown . this increase the chance of vaccine prevented infection and diseases among these children(11). Vaccination very important to protect them from many diseases according to national immunization schedule every children gets the vaccination for diseases like tuberculosis, mumps, measles , rubella , diphtheria, hepatitis b ,tetanus etc but during this lockdown period it was difficult for parents to reach to primary health centers and other places for vaccination this lead to suffer the children can increase the risk of diseases which can be prevented by vaccination . due to shift of

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government focus on natural disaster due to virus has affected the ongoing vaccination programs

In rural areas the availability of mass media is not possible , many of the farmers and laborers cant afford a television or mobile phone these are the means to communicate with peoples and it is easy for government to reach out the distant peoples but this was not possible in case of educating rural peoples about covid 19 infection its symptoms its way of spread and preventive measures are not understand by rural peoples and this made them to believe in myths and lead to raise risk for infection

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Farmers and farm laborers are also suffered because loss of transport due to lockdown which was only mean to go for work .the rabi crop was ready to harvesting many areas during covid 19 pandemic but to do lockdown situation this harvesting of crops was not done because for harvesting machineries required like tractors and harvesters are not available due to lockdown .so the harvest of these rabi crop is delayed due to non availability of labor and machines. This was also time for harvesting coffee ,banana ,pepper which is also affected. This was the period of peak earning from flowers but due to restriction to movement and transport they suffered huge loss. Also those who sell fruits are suffered due to lockdown because of fear that fruits can transmit infection their sell in decreased drastically .

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Many of the peoples from rural areas shift to urban setting in search of jobs and various work for earnings because of more number of work chances are there people in rural areas tend to settle in cities. But during lockdown all factories and various shops and other work places are closed which made these people jobless and due to this they loss their only earning source and also some of them suffered hunger due to this they move back to their native places which is villages.

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Many migrant labor suffered during their journey from cities to their village due to non-availability of transport facility many of the labor and their families along with children decided to go by walking or by bicycle ,during summers they were traveling by walking with no food and water this was very dangerous and many of the labor suffered dehydration , sunstroke and some of the deaths are reported among these migrants. On the other hand villages were not ready to supply to these many migrant which was become a burden on villagers. (12)

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During this pandemic many migrants from rural areas lost their job and they suffered during their journey to home which had very bad impact on their mental health . this can be reason of depression and anxiety , panic attacks so it is important for health care workers to look on these factors too .also farmers are suffered big economic loss already in India farmer suicide is very big issue so it is necessary for government to look in these matters and assure that they can easily cop up with these things.

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During initial days the prize of mask and sanitizers was so high that rural peoples cannot afford these. Also less aware peoples dose not know how to were a mask and how much distance is required to prevent infection transmission so Indian government should look into these things and educate peoples about covid 19 pandemic . A number of studies reflected on effects of Covid-19 pandemic in rural populations (13-16). It's widespread effects on child health (17), medical and healthcare facilities(18-20) and lessons learnt through this situation were documented (21-25). Gaps in rural healthcare facilities have been highlighted in different studies which threaten the increased risk of morbidities due to Covid-19 (26-30).

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Conclusion :

PHC are the easily assessable and cost friendly for rural peoples but during this pandemic situation these PHC are not prepared for facing covid pandemic. Due to less accessibility to media and less media coverage exact situation in rural areas was not stated properly also less knowledge in rural peoples about covid 19 infection was reason of high risk of spread of infection amongst them. Children in rural areas who are economically not that much well can't get access to internet and cannot afford the mobile or laptops for online education this made the chances of drop outs in these children. During lockdown due to pandemic all the farmers and small shop holders faced huge loss ,this was the period of great earnings from various rabi crops but due to shortage of labor and non-availability of various machineries delay harvest and this lead to huge loss for farmers.

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It is necessary to strengthen the PHC and made them to cope up with these pandemic like situation government should give more funds towards developing these PHC and providing trained professionals also development of labs and increasing the strength of PHC in necessary.

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Government should reach in every single village to educate them about the pandemic situation . children in rural areas are motivated to study by training the teachers and providing some more facilities to them . Also for those who lost their job and farmers who suffered this loss should be supported financially.

Comment [U67]: Reframe the sentence
Stress how can professionals ,and others can cope to mitigate the situation

References:

1. Dube, S.C., 2017. Indian village. Routledge.
2. Jussila, H., Lotvonen, E. and Tykkyläinen, M., 1992. Business strategies of rural shops in a peripheral region. Journal of Rural Studies, 8(2), pp.185-193.

3. Nyoni, N.M.B., Grab, S. and Archer, E.R., 2019. Heat stress and chickens: climate risk effects on rural poultry farming in low-income countries. *Climate and Development*, 11(1), pp.83-90.
4. Daniel, V., & Daniel, K. (2020). Exercises training program: It's Effect on Muscle strength and Activity of daily living among elderly people. *Nursing and Midwifery*, 1(01), 19-23. <https://doi.org/10.52845/NM/2020v1i1a5>
5. Niles, M.T., Bertmann, F., Belarmino, E.H., Wentworth, T., Biehl, E. and Neff, R., 2020. The early food insecurity impacts of COVID-19. *Nutrients*, 12(7), p.2096.
6. Hartley, D., 2004. Rural health disparities, population health, and rural culture. *American journal of public health*, 94(10), pp.1675-1678.
7. Peiris, D., Praveen, D., Mogulluru, K., Ameer, M.A., Raghu, A., Li, Q., Heritier, S., MacMahon, S., Prabhakaran, D., Clifford, G.D. and Joshi, R., 2019. SMARThealth India: a stepped-wedge, cluster randomised controlled trial of a community health worker managed mobile health intervention for people assessed at high cardiovascular disease risk in rural India. *PLoS One*, 14(3), p.e0213708.
8. Daniel, V., & Daniel, K. (2020). Perception of Nurses' Work in Psychiatric Clinic. *Clinical Medicine Insights*, 1(1), 27-33. https://doi.org/10.52845/CMI/20_20v1i1a5
9. Sarti, T.D., Lazarini, W.S., Fontenelle, L.F. and Almeida, A.P.S.C., 2020. What is the role of primary health care in the COVID-19 pandemic?.
10. Panda, A.K. and Kar, S., 2021. Ayurvedic Immuno Booster: Is it Myth or Reality in COVID-19 Pandemic. *Int J Cur Res Rev* | Vol, 13(01), p.134.
11. Sahoo, S., Padhy, S.K., Ipsita, J., Mehra, A. and Grover, S., 2020. Demystifying the myths about COVID-19 infection and its societal importance. *Asian journal of psychiatry*.

12. Anand, R., Saxena, S. and Saxena, S., 2012. E-learning and its Impact on Rural Areas. *International Journal of Modern Education and Computer Science*, 4(5), p.46.
13. Saxena, S., Skirrow, H. and Bedford, H., 2020. Routine vaccination during covid-19 pandemic response.
14. Jr, B. F. P. ., & Federico R. Tewes. (2021). What attorneys should understand about Medicare set-aside allocations: How Medicare Set-Aside Allocation Is Going to Be Used to Accelerate Settlement Claims in Catastrophic Personal Injury Cases. *Clinical Medicine and Medical Research*, 2(1), 61-64. <https://doi.org/10.52845/CMMR/2021v1i1a1>
15. Greenaway, C. and Gushulak, B.D., 2017. Pandemics, migration and global health security. In *Handbook on migration and security*. Edward Elgar Publishing.
16. Gaidhane, S., N. Khatib, Q.S. Zahiruddin, A. Gaidhane, S. Telrandhe, and P. Godhiwal. “Depression, Anxiety and Stress among the General Population in the Time of COVID-19 Lockdown: A Cross-Sectional Study Protocol.” *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 360–64. <https://doi.org/10.26452/ijrps.v11iSPL1.2726>.
17. Juneja, S., S. Dangore-Khasbage, and R.R. Bhowate. “Role of Vitamin D in Prevention of Corona Virus Infection (Covid-19).” *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 407–10. <https://doi.org/10.26452/ijrps.v11iSPL1.2737>.
18. Khan, S., S. Quazi, and M. Kaple. “The Demographical and Epidemiological Profile of Coronavirus Disease 2019 (Covid-19)- A Review.” *Journal of Critical Reviews* 7, no. 10 (2020): 4–8. <https://doi.org/10.31838/jcr.07.10.02>.

19. Daniel, V. ., & Daniel, K. (2020). Diabetic neuropathy: new perspectives on early diagnosis and treatments. *Journal of Current Diabetes Reports*, 1(1), 12–14. <https://doi.org/10.52845/JCDR/2020v1i1a3>
20. Kothari, L., S. Wadatar, R. Taori, P. Bajaj, and D. Agrawal. “Coronavirus: Towards Controlling of the Pandemic-Indian Scenario.” *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 462–68. <https://doi.org/10.26452/ijrps.v11iSPL1.2813>.
21. Lohiya, S.B., S. Damke, and R. Chaudhary. “Coronavirus Disease (COVID) 2019 in Children – A Short Review.” *International Journal of Current Research and Review* 12, no. 17 (2020): 172–77. <https://doi.org/10.31782/IJCRR.2020.121726>.
22. Nisargandha, M.A., and S. Dadaraoparwe. “Spread of Coronavirus Disease 2019 (COVID-19) during the Lockdown in the Indian Population and Preventive Measures.” *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 328–32. <https://doi.org/10.26452/ijrps.v11iSPL1.2721>.
23. Parwe, S.D., A.S. Ingle, M.A. Nisargandha, and B. Rathi. “Healthcare Workers Novel Coronavirus (NCOVID 19) Life-Threatening Situation during the Pandemic.” *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 1222–25. <https://doi.org/10.26452/ijrps.v11iSPL1.3600>.
24. Parwe, S.D., M.A. Nisargandha, and R. Thakre. “Role of Convalescent Plasma Therapy in New Coronavirus Disease (Ncovid-19): A Review.” *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 546–49. <https://doi.org/10.26452/ijrps.v11iSPL1.2846>.

25. Rathi Saurabh, D., P. Nikhade, N. Motwani, S. Baror, and A. Jaiswal. "Coronavirus Pandemic-the Real Lessons Are Learnt in the Time of Crises." *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 1011–14. <https://doi.org/10.26452/ijrps.v11iSPL1.3426>.
26. Sahu, A., and W.M. Naqvi. "Floating Countries and Corona Pandemic: Impact of Covid-19 on Stranded Cruise Ships." *International Journal of Research in Pharmaceutical Sciences* 11, no. Special Issue 1 (2020): 219–23. <https://doi.org/10.26452/ijrps.v11iSPL1.2702>.
27. Khatib, N.M., Z.S. Quazi, A.M. Gaidhane, T.S. Waghmare, and R.C. Goyal. "Risk Factors of Type-2 Diabetes Mellitus in Rural Wardha: A Community Based Study." *International Journal of Diabetes in Developing Countries* 28, no. 3 (2008): 79–82. <https://doi.org/10.4103/0973-3930.44077>.
28. Mohammad Akther, J., I. Ali Khan, V.V. Shahpurkar, N. Khanam, and Z. Quazi Syed. "Evaluation of the Diabetic Foot According to Wagner's Classification in a Rural Teaching Hospital." *British Journal of Diabetes and Vascular Disease* 11, no. 2 (2011): 74–79. <https://doi.org/10.1177/1474651411406372>.
29. Quazi, S.Z., S. Nimbarte, D. Selokar, A. Gaidhane, A. Mudey, and V. Wagh. "Profile of Clients Attending an Integrated Counselling and Testing Centre at a Private Rural Tertiary Care Hospital in India." *Australasian Medical Journal* 3, no. 6 (2010): 349–52. <https://doi.org/10.4066/AMJ.2010.236>.
30. Quazi, Z., A. Gaidhane, A. Das, A. Hagopian, and P. House. "Emergency Obstetrics Care Preparedness in Rural Hospitals." *Journal of Datta Meghe Institute of Medical Sciences University* 8, no. 2 (2013): 85–90.

UNDER PEER REVIEW

