

Parents' Knowledge and Attitude towards Covid-19 Pandemic for Sustainability

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Abstract

This pilot survey was carried out to underpin the two most significant aspects of pandemic caused by the nCoV-19 virus over the last 3 years. In this hiatus, education and well-being posed a big challenge among the students. Overcoming the clouds of fear brought about by the pandemic, this study aims at assessing the knowledge and attitude of parents towards this pandemic to support and highlight the needs and concerns for a better health education among the primary stakeholders of an educational institution. The main objectives of this study were to assess the knowledge & attitude towards Covid-19 pandemic among the parents of elementary-level students residing in rural and sub-urban locality and explore the relationship between the knowledge and attitude. 200 parents were selected through purposive sampling. Self-administered scale was developed for collecting the relevant data. Data were analyzed using M.S. Excel 2007 and SPSS version 20. t-test was done to assess the knowledge and attitude towards Covid-19 pandemic in relation to locality. The study claimed that most of the parents depend on television & print media to update information on Covid-19 pandemic. Apropos to this, it was surprisingly found that there was a statistically significant mean difference in knowledge and attitude among parents in rural and sub-urban locality and there was a very weak relationship ($r= 0.031$) between these two variables. Hence, the study interprets and recommends for a need of orientation on health education among the primary stakeholders of the education and society.

Keywords: Knowledge, Attitude, Covid-19 pandemic, Parents, Sustainability.

Introduction

Since December 2019, the outbreak of the corona virus disease has been spreading rapidly from China to other parts of the world leading to acute infectious pneumonia (Bao et al., 2020). In March 2020, the World Health Organization (WHO) announced the corona virus disease, termed COVID-19 disease, as an international pandemic, which was caused by the infectious virus severe acute respiratory syndrome (SARS) coronavirus 2 (WHO, 2020 & USDCDC-2020). Social and physical distancing, in addition to self-quarantining, have been imposed by many governments worldwide, due to the spread of the virus reported to be primarily through direct contact, i.e. droplets spread by coughing or sneezing from an infected individual (Rothan & Byrareddy; 2020). Likewise, home quarantines and mandates have escalated the consumption of digital entertainment (King et al., 2020). According to previous research reports, during similar viral outbreaks, a significant increase in the risk of mental health problems among individuals happen, including anxiety, depression and traumatic stress (Matsuishi et al., 2009, Mak et al., 2009, Elias et al., 2011). During this pandemic it was found that levels of stress, anger, anxiety and depression level among school students' have increased due to isolation from school as well as from society. Inadequate knowledge and incorrect

attitude among general public has direct influence on the spread of disease. It leads to delayed diagnosis, poor infection control practices and lack of personal hygiene measures (Abdel Wahed et. al. 2020). It is a relatively new disease with a very high rate of infectivity; hence it is important to educate and aware the public about its mode of spread and preventive measures. COVID-19 pandemic outbreak is associated with a large number of morbidity and mortality worldwide. It has produced catastrophic effects on educational sector. A large number of social and psychological changes have been also observed in human behaviour all over the world (Sorokowski et.al. 2020). The critical understanding of the epidemiological pattern of the disease and the success and effectiveness of the public health measures depends on the knowledge, attitudes and practices of the general population towards Covid-19 (Reuben et. al. 2021). Knowledge and attitudes regarding primary preventive measures in males and females such as social distancing, regular hand-washing, use of masks, disinfectants and hand sanitizers and covering mouth and nose while coughing and sneezing is mandatory to halt the disease outbreak (Almutairi et. al. 2015). Thus, these studies explore knowledge and attitude towards Covid-19 pandemic among parents of elementary students of West Bengal.

Review of Related Studies

Numerous researches and studies have been conducted on Knowledge, attitude, practices towards Covid-19 pandemic among different population throughout the world. Some selected studies/researches are documented below:

| Author/s | Year | Topic | Findings |
|---------------|------|---|--|
| Noori et al. | 2020 | Knowledge, attitude & practices towards Covid-19 among parents or guardians of patient children. | Participants had good knowledge, positive attitude & sufficient practice towards Covid-19. |
| Abuhammad, S. | 2020 | Parent's knowledge and attitude towards Covid-19 in children: A Jordanian Study. | Parents had a good understanding of the clinical sign, mode of transmission and protection measures. |
| Khan et al. | 2020 | Gender differences in knowledge, attitude and perceptions regarding Covid-19 among general population of Punjab, Pakistan. | No significant difference was observed in knowledge of both gender regarding transmission & prevention of Covid-19. Significant difference was observed in behaviors of two genders. |
| Ma et al. | 2020 | Knowledge, attitude and practices of rural residents in the prevention and control of Covid-19: An online questionnaire survey. | Rural residents' average score on knowledge, attitude and behaviour regarding prevention and control. |
| Author/s | Year | Topic | Findings |

| | | | |
|-----------------|------|--|---|
| Ferdous et al. | 2020 | Knowledge, attitude and practice regarding Covid-19 outbreak in Bangladesh: An online based cross sectional study. | The study reveals that 48.3% of participants had more accurate knowledge, 62.3% had more positive attitude, and 55.1% had more frequent practices regarding Covid-19. More accurate knowledge associated with age and residence. |
| Erfani et al. | 2020 | Knowledge, attitude and practice towards the Novel Corona virus outbreak: A population based survey in Iran. | 60.8% of the general population having moderate knowledge towards the disease. Results showed that a significant correlation between female gender, higher age and higher education with knowledge, attitude and practice. |
| Bhowmick et al. | 2021 | A survey to assess the knowledge, attitude and practice about Covid-19 pandemic from West Bengal, India. | 97% of respondents were completely aware of the pandemic with 92% practicing preventive measures. There was no significant difference between awareness among the male and female participants of this survey. This study also revealed that the awareness among the urban dwellers is significantly greater when compared to rural people. |

Need of the Study

In this pandemic situation all students are physically out of their schools for long time and ICT-based education has become the only option through which they can interact with each other. This has taken a toll over their mental health too. In light of such an unprecedented milieu, parents' role to monitor their children's physical and mental health is a prerogative. Good parental knowledge and proper attitude are very essential for the well-being of their wards. In order to crack the subject under concern, it was found that a very less researches in this area have been conducted so far among the parents in West Bengal. Therefore, this identified gap was taken up to explore into the knowledge and attitude towards Covid-19 pandemic for a sustainable society. The findings of the study will help in developing educational plans about appropriate method by which parents can be enriched with knowledge on Covid-19 pandemic and develop positive attitude in orienting their wards to combat a healthy life and education.

Delimitation of the Study

The following areas were delimited:

Geographical location: This type of study could have been conducted in all the districts of West Bengal taking large number of parents but it is very difficult to control the work design with a large number of parents. So, only one district was selected among twenty-three districts of West Bengal for the study. The selected district is South 24 PGS.

Locality: The study was being conducted in rural and sub urban locality only.

Sample: The study was conducted on Parents of children studying in elementary-level in Govt. / Govt. Sponsored Schools only.

Operational Definition of the Terms:

- **Rural locality:** The areas covered by Gram Panchayat
- **Sub urban locality** -The residential area on the outskirts of a city.
- **Covid-19 pandemic-** The pandemic caused by the Covid-19 infection across the globe.
- **Knowledge-** It is the necessary information regarding various aspects of Covid-19 pandemic.
- **Attitude-** It is a settled way of thinking or feeling about Covid-19 pandemic.
- **Parents-** Parents of elementary students studying in Govt. / Govt. Sponsored Schools in South 24 Parganas district.
- **Sustainability** -It is the capacity to endure, maintain and support ways, behaviour, information and predispositions considering the pandemic condition

Objectives of the Study:

The following objectives were laid to conduct the study:

- ❖ To know the source of information on Covid-19 pandemic among parents of elementary students.
- ❖ To compare knowledge of Covid-19 pandemic among parents in relation to locality.
- ❖ To compare attitude towards Covid-19 pandemic among parents in relation to locality.
- ❖ To find out the correlation between knowledge and attitude towards Covid-19 pandemic among parents.

Hypotheses: In order to test the objectives, the following hypotheses were formulated:

- ❖ **H₀1:** There is no statistically significant mean difference in knowledge on Covid-19 pandemic among parents in relation to locality.
- ❖ **H₀2:** There is no statistically significant mean difference in attitude towards Covid-19 pandemic among parents in relation to locality.
- ❖ **H₀3:** There is no significant positive relationship between knowledge and attitude towards Covid-19 pandemic among parents.

Variables of the study:

- **Dependent Variable:** Knowledge & Attitude
- **Categorical Variables:** Rural and Sub- urban locality.

Study Design:

- **Study Type:** Quantitative method.
- **Duration of Survey:** During 2021-2022
- ✓ **Population:** Parents of elementary students studying in Govt. / Govt. Sponsored Schools only.

➤ **Sample:** 200 parents of elementary students from South 24 PGS district were chosen through purposive sampling.

➤ **Tools:**

• Self administered scale was developed for collecting relevant data. Before constructing the tool, a thorough review of related studies was carried out to select possible items which would reflect the objective of the study. The tool has four sections-

- ✓ **Part A** seeks general information about the respondents.
- ✓ **Part B** covers 15 items with 4- point likert scale (strongly agree, agree, disagree and strongly disagree) related to knowledge on Covid-19 pandemic.
- ✓ **Part C** includes 12 items with 4- point likert scale (strongly agree, agree, disagree and strongly disagree) on attitude towards Covid-19 pandemic.
- ✓ **Part D** covers 1 item on information sources of Covid-19 pandemic.

• Content validity was done during initial stages of tool development. The main method to assess content validity was through expert judgment. For content validity, four experts reviewed the scale and assessed each item based on 4 criteria including relevancy, clarity, simplicity and necessity.

➤ **Collection of Data:**

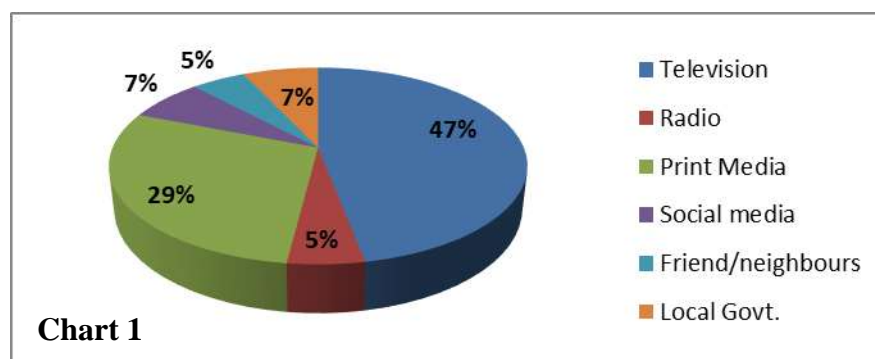
Data were collected from parents when they arrived school for collection of mid day meal & other official work and also by direct visit maintaining Covid norms and protocol.

➤ **Statistical Technique Used for Data Analysis:**

Mean, Standard Deviation (SD), graphical representation, t- test and Pearson’s Product Moment Correlation. MS Excel & SPSS version 20 also be utilized for data analysis

Data Analysis & Interpretation:

❖ ***Objective 1:*** Source of information on Covid-19 pandemic among parents of elementary students



From this study it was found that most of the parents depend on television (47%) & print media (29%) for update information on Covid-19 pandemic.

❖ ***Hypothesis 1:*** There is no statistically significant mean difference in knowledge on Covid-19 pandemic among parents in relation to locality.

➤ **TABLE 1.1: Descriptive statistics of score obtained from rural and sub- urban parents regarding knowledge on COVID-19 pandemic:**

| <i>Rural</i> | | <i>Sub-urban</i> | |
|--------------------|--------------|--------------------|--------------|
| Mean | 43.81188119 | Mean | 47.03030303 |
| Standard Error | 0.766335354 | Standard Error | 0.787902573 |
| Median | 44 | Median | 48 |
| Mode | 41 | Mode | 51 |
| Standard Deviation | 7.701574996 | Standard Deviation | 7.839531621 |
| Sample Variance | 59.31425743 | Sample Variance | 61.45825603 |
| Kurtosis | -0.016555877 | Kurtosis | -0.323657092 |
| Skewness | -0.258770277 | Skewness | -0.371670076 |
| Range | 38 | Range | 35 |
| Minimum | 20 | Minimum | 25 |
| Maximum | 58 | Maximum | 60 |
| Sum | 4425 | Sum | 4656 |
| Count | 101 | Count | 99 |

➤ **TABLE 1.2: Testing for normality of data obtained from rural and sub- urban parents regarding knowledge on COVID-19 pandemic (Using SPSS):**

| Tests of Normality | | | | | | |
|---------------------------------------|---------------------------------|-----|------|--------------|-----|-------------|
| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | Df | Sig. |
| Rural | .086 | 101 | .061 | .979 | 101 | .099 |
| a. Lilliefors Significance Correction | | | | | | |

| Tests of Normality | | | | | | |
|---------------------------------------|---------------------------------|----|------|--------------|----|-------------|
| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Sub urban | .082 | 99 | .098 | .974 | 99 | .051 |
| a. Lilliefors Significance Correction | | | | | | |

From table 1.2 it was found that scores obtained from rural and sub- urban parents regarding knowledge was normally distributed as the significance value (0.099 & 0.051) of the Shapiro-Wilk test is greater than 0.05.

➤ **TABLE 1.3: Analysis of the result using t-test:**

| | <i>Sub-urban</i> | <i>rural</i> |
|-------------------------------------|--------------------|--------------|
| Mean | 47.03030303 | 43.81188 |
| Variance | 61.45825603 | 59.31426 |
| Observations | 99 | 101 |
| Pooled Variance | 60.37542845 | |
| Hypothesized Mean Difference | 0 | |
| Df | 198 | |
| t Stat | 2.928708451 | |
| P(T<=t) one-tail | 0.001901414 | |
| t Critical one-tail | 1.652585784 | |
| P(T<=t) two-tail | 0.003802829 | |
| t Critical two-tail | 1.972017432 | |

The above table (1.2) reveals that there is a significant mean difference between rural and sub-urban parents as calculated t-value 2.92 is greater than the table value 1.97 at 5% level of significance and hence the null hypothesis “there is no statistically significant mean difference in knowledge on Covid-19 pandemic among parents in relation to locality” is not accepted.

Hypothesis 2: *There is no statistically significant mean difference in attitude on Covid-19 pandemic among parents in relation to locality.*

➤ **TABLE 2.1: Descriptive statistics of score obtained from rural and sub-urban parents regarding attitude towards COVID-19 pandemic:**

| <i>Rural</i> | | <i>Sub-urban</i> | |
|---------------------------|--------------|---------------------------|--------------|
| Mean | 33.53465347 | Mean | 36.03030303 |
| Standard Error | 0.73289935 | Standard Error | 0.710444875 |
| Median | 34 | Median | 37 |
| Mode | 29 | Mode | 38 |
| Standard Deviation | 7.365547307 | Standard Deviation | 7.068837253 |
| Sample Variance | 54.25128713 | Sample Variance | 49.96846011 |
| Kurtosis | -0.362138636 | Kurtosis | -0.552458399 |
| Skewness | -0.243238937 | Skewness | -0.27981289 |
| Range | 33 | Range | 30 |
| Minimum | 15 | Minimum | 18 |
| Maximum | 48 | Maximum | 48 |
| Sum | 3387 | Sum | 3567 |
| Count | 101 | Count | 99 |

- **TABLE 2.2: Testing for normality of data obtained from rural and sub- urban parents regarding attitude towards COVID-19 pandemic (Using SPSS):**

| Tests of Normality | | | | | | |
|--|---------------------------------|-----|-------|--------------|-----|-------------|
| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Rural | .070 | 101 | .200* | .983 | 101 | .237 |
| *. This is a lower bound of the true significance. | | | | | | |
| a. Lilliefors Significance Correction | | | | | | |

| Tests of Normality | | | | | | |
|---------------------------------------|---------------------------------|----|------|--------------|----|-------------|
| | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Semi urban | .094 | 99 | .030 | .975 | 99 | .059 |
| a. Lilliefors Significance Correction | | | | | | |

From table 2.2 it was found that scores obtained from rural and sub- urban parents regarding attitude was normally distributed as the significance value (0.237 & 0.059) of the Shapiro-Wilk test is greater than 0.05.

- **TABLE 2.3: Analysis of the result using t-test:**

| | <i>Sub- urban</i> | <i>Rural</i> |
|-------------------------------------|--------------------|--------------|
| Mean | 36.03030303 | 33.53465347 |
| Variance | 49.96846011 | 54.25128713 |
| Observations | 99 | 101 |
| Pooled Variance | 52.13150406 | |
| Hypothesized Mean Difference | 0 | |
| Df | 198 | |
| t Stat | 2.443975012 | |
| P(T<=t) one-tail | 0.007701016 | |
| t Critical one-tail | 1.652585784 | |
| P(T<=t) two-tail | 0.015402033 | |
| t Critical two-tail | 1.972017432 | |

The above table (2.3) reveals that there is a significant mean difference between rural and sub-urban parents as calculated t-value 2.44 is greater than the table value 1.97 at 5% level of significance and hence the null hypothesis “there is no statistically significant mean difference in attitude towards Covid-19 pandemic among parents in relation to locality” is not accepted.

Hypothesis 3: *There is no significant positive relationship between knowledge and attitude towards Covid-19 pandemic among parents.*

➤ **TABLE 3: Relationship between knowledge and attitude towards Covid-19 pandemic among Parents (using SPSS version 20):**

| Correlations | | | |
|--------------|---------------------|-------------|-------------|
| | | Knowledge | Attitude |
| Knowledge | Pearson Correlation | 1 | .031 |
| | Sig. (2-tailed) | | .659 |
| | N | 200 | 200 |
| Attitude | Pearson Correlation | .031 | 1 |
| | Sig. (2-tailed) | .659 | |
| | N | 200 | 200 |

The above table (3) reveals that there is a very weak relationship between knowledge and attitude towards Covid-19 pandemic, as Pearson Correlation value is 0.031 i.e. variables were not strongly correlated and hence the null hypothesis “*there is no significant positive relationship between knowledge and attitude towards Covid-19 pandemic among parents*” is partially accepted.

Discussion of Results

A total number of 200 parents were surveyed in this study. Out of 200 parents 101 (50.5%) from rural and 99 (49.5%) from sub-urban locality are taken for this study. Covid-19 pandemic is rapidly spreading in India. As on 29th January, 2022 India had 4,08,58,241 cases (mygov.in/Covid-19). Rural population in India was reported at 898,024,053 in 2020, according to the World Bank collection of development indicators, compiled from officially recognized sources. (India - Rural population - actual values, historical data, forecasts and projections were sourced from the World Bank on January of 2022. <https://tradingeconomics.com/india/rural-population-wb-data.html>). High population density state like West-Bengal, it is 1029/km² (censusindia.gov.in) making social distancing even more difficult.

The result of the present study shows that parents mainly depend on television and print media for their information on Covid-19 pandemic. This result is similar to previous studies by Abuhammad (2020) and Lau et al. (2020). However, this finding is not consistent with Depoux et al. (2020), who found that people rely heavily on social media channels such as facebook and twitter for latest news. So, people need to be careful regarding the information that is presented in these and other media.

Knowledge: Increase in knowledge led people to understand and have trust in the institution and principle of science (Zhong et al. 2020). As per the result of this study, there were significant differences in knowledge on Covid-19 pandemic among parents of rural and sub urban locality with parents from rural locality having less knowledge than sub urban locality. In contrast, Ferdous et al. (2020) found that proportion of more accurate knowledge were significantly associated with locality. People of rural area had more knowledge than urban area ($p=0.008$). In another study conducted in West Bengal by Bhowmick et al. (2021), found that an average correct response (awareness) of 87.29% was recorded by participants who belonged to urban setting as compared to just 12.71% correct responses from the participants who belonged to rural setting. These suggest that the

awareness among the urban dwellers is significantly greater when compared to rural people. Many possible reasons behind this finding are like high illiteracy rate, lack of consciousness, insufficient income & most of the rural areas are isolated in terms of locality as well as access to information. However, no significant difference was found for knowledge score among parents of patient children in terms of locality in Iran (Noori et al. 2020). Another study by Huang et al. (2020) in China indicated that rural residents with poor household economic condition have lower knowledge score than those with medium and high economic conditions. Residents with poor economic conditions may not pay much attention to health care and may not have the motivation to actively master knowledge.

Attitude: In this study another focus area was to assess the attitude of parents in relation to locality. Results revealed that sub urban parents have more positive attitude than rural parents. This result is similar to previous study by Doss et al. (2020) in India, that attitude towards the final success in controlling Covid-19 significantly differed across gender, educational levels, occupation categories and residence place ($p < 0.05$). Another study by Ma et al. (2020) in rural residents of China found that there was a significant difference in the attitude score between respondents with different gender, age, education level, occupations, presence or absence of confirmed cases in their village. Rural residents with a lower economic level had significantly lower attitude score, which might be ascribed to the fact that lower economic levels affected the formation of positive attitude in rural population.

Correlation: It is worth mentioning that in this study it was found that there is no significant relationship between knowledge and attitude on Covid-19 pandemic among parents. However, a previous study by Doss et al. (2020) found that Covid-19 knowledge were found to be significantly associated with a lower likelihood of negative attitude and positive dangerous practices towards Covid-19. This finding is not consistent with several studies that found positive correlation with knowledge, attitude and practice on Covid-19 (Ma et al. 2020, Erfani et al. 2020, Adli et al. 2022, Carvalho Alves et al. 2021.)

Thus, this survey will draw the attention of the policy makers under State Govt. to increase awareness in the rural areas of the state via health education. Health education is an essential public health tool in combating emerging diseases, such as infection by the new corona virus (Clements, 2020).

Conclusion

The study unfurled that knowledge and attitude about the Covid-19 pandemic was significantly greater among the parents from sub urban locality than rural locality in the South 24 Parganas district of West Bengal. The findings purports creating periodic health education programme, to sensitize the parents especially. Parents' right knowledge and favourable attitude can only lend an uninterrupted education of their wards. This study clearly specified the importance of developing knowledge on Covid-19 pandemic via health education, which may upshot in improvement of their attitude and practices towards maintaining, enduring and supporting behaviour/actions in the wheel of Covid-19 pandemic. The Government may take initiatives to conduct need-based survey among parents of school-goers because the information/scenarios about Covid-19 pandemic and myths engulfing need continuous updating. An extrapolation of the present findings, recommends that tailor-made health education campaigns and sensitization is a domineering step for sustainability in such kind of hiatus in the society.

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