

A Cross Sectional Study on the Psychological Impact of Covid-19 Pandemic on Schoolteachers in Andhra Pradesh

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ABSTRACT

BACKGROUND

COVID-19 is a novel disease caused by Coronavirus. It was declared a pandemic by WHO in March 2020. To reduce the impact of the disease lockdown was imposed by various governments. This has a psychological impact on various groups of people. Schoolteachers are no less affected. There is scarcity in our understanding of the psychological impact among schoolteachers. This study is an attempt to understand the psychological impact among schoolteachers. We wanted to study the psychological impact of the COVID-19 pandemic on schoolteachers.

METHODS

The study was a cross-sectional one and conducted using online Google forms. A total of seventy-nine schoolteachers were included in the study analysis. The data were analysed using R language; nonparametric tests like Mann Whitney U and Kruskal Wallis test were used. The data obtained were tabulated and discussed.

RESULTS

Nearly half the sample belongs to 46 to 55 years, males constitute 57 %, majority of the participants were married, there was an equal distribution from a rural and urban background and teachers working in Government setup were 86 %. Females had significantly higher levels of depression and stress. Married had significantly higher levels of depression. Moderate to severe levels of depression, anxiety and stress were seen in 2.6 %, 10 %, and 2.5 % of the participants.

CONCLUSIONS

The study has found an increase in psychological impact among the schoolteachers. But the reported increase is less than that observed during the peak of the pandemic. Females have more depression and stress compared to males.

KEYWORDS

COVID-19, Mental Disorders, Pandemic, Schoolteachers

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BACKGROUND

COVID-19 (Coronavirus disease) is a novel infection caused by virus belonging to family of coronavirus, thought to be first originated from Wuhan city of China.¹ After its initial spread locally, it started spreading globally across different countries at a fast pace. Noticing the speed of spread, World Health Organisation (WHO)² declared the disease as Pandemic on 11th March 2020. While the scientific communities across globe were finding ways to understand the pathophysiology, identify the mechanism of spread and discovery / invent new treatment options; the governments were taking steps to curtail the spread of infection and limit the mortality. The Government of India, working in the same direction tried its best to reduce the damage by introducing lockdown and various precautionary measures to reduce the anticipated damage. The precautionary measures were widely popularised and included social distancing, wearing face masks, and the use of hand sanitizer (SMS).

The COVID-19 pandemic lockdown imposed a number of change in everyone's life; the schoolteachers were no less affected. With the suspension of face-to-face teaching, they were changes introduced to implement online classes. Taking online classes was entirely a new thing and had associated challenges related to technical stuff and even the method of taking the classes. But there was no better alternative during the ongoing pandemic keeping in view the safety of children and teachers. The technology required basic facilities like access to the internet, presence of necessary computer hardware. Most of these are alien to the schools belonging to rural areas due to poor penetration of the internet. This technology based e-classes had the difference of children being present virtually in the class. Most of the teachers were well adjusted to the traditional teaching methods, thus this type of teaching was very different; they frequently complained that it feels as though they were teaching themselves and felt emotionally detached from the pupils. The students on the other hand were left to the mercy of technology. Some attended the classes sincerely, whereas others played with the loopholes in the technology.

While on one side these were the problems related to teaching; on the other side, there were problems associated with the financial aspects of teachers. Schoolteachers employed in private institutions had difficulty in meeting their financial needs. Most of the private institutions run the show from the fees collected from student's and from that pay salaries to the teachers. Due to COVID19 the fee collection is hampered to a great extent, thus leading to reduced income and in turn, leading to reduction in the pay check of the employed teachers. In some instances, teachers have even lost jobs due to the institutions' inability to pay them.

While the lockdown may have reduced the speed of infection spread or reduced the mortality to some extent.^{3,4} It had its undue adverse effects in terms of affecting the economy and impacting the human psyche. Studies⁵ reported an increase in psychological impact among various groups of the population. Studies conducted to assess the psychological impact during the COVID19 pandemic⁶⁻⁸ were

focused on the lay public, healthcare workers, children, and geriatric population. Almost all of the previous studies have shown an increase in the prevalence in or the other psychological parameters like depression, anxiety, or stress. There were studies conducted in western context, but to the best of our knowledge the studies on psychological impact on schoolteachers in our setting were minimal. The study tries to assess the psychological impact of the COVID-19 pandemic on schoolteachers in our setting.

METHODS

Study Details

It was a cross-sectional study, started after obtaining approval from the ethics committee. It was conducted using online study tools on schoolteachers working in local schools of the town. The questions were uploaded to Google forms and a sharable link was created. The link was then shared with the known schoolteachers. There were asked to fill the forms after agreeing to the consent form and then share the link with their colleagues. The Snowball technique was used to collect the sample. The study was conducted from August to October 2020. This was also the time when COVID19 lockdown was in place and schools have not yet started due to restrictions.

Questionnaire

The study questionnaire consisted of an informed consent sheet explaining the details of the study, a proforma to gather the socio-demographic details of the participants, and a questionnaire to screen for depression, anxiety, and stress scale (DASS-21).

DASS - 21 is a self-reported questionnaire designed to screen for depression, anxiety and stress. The questionnaire has been used in many studies and has good validity and reliability. It had 21 questions which were arranged into three subscales each consisting of seven questions. It was based on a dimensional concept of mental disorders. Scores for the three subscales were calculated by adding the scores for all the relevant items. Recommended cut-off scores were provided by the authors of the scale. As all the teachers were well versed in English, it was used in the study.

Statistical Analysis

The online questionnaires filled through the link, would be automatically populated to a Microsoft Excel sheet. The excel sheet was then checked for any missing data. Those with missing data were excluded from the analysis. Totally ninety participants filled the form during the study duration, among them 11 were missing important details and hence 79 were finally analyzed. Data were analyzed using R programming language⁹ using R Studio¹⁰ as an Integrated development environment (IDE). R language is a free platform and can be used by anyone without requiring any licence to use. To analyze the data in R, the following packages were used 'summarytools'¹¹, 'dplyr'¹², and 'ggplot2'¹³. Summary tools and dplyr was used for data wrangling and descriptive

statistics. ggplot was used to find normal distribution, obtain graphs and do inferential statistics. The data did not follow a normal distribution; hence nonparametric tests were used for analysis. Descriptive analysis was done to get means, median, standard deviation and percentages wherever applicable. Inferential analysis was done using Mann Whitney U and Kruskal Wallis test whichever was appropriate. The results thus obtained were tabulated and discussed.

RESULTS

Sl. No.	Variable (n = 79)	Percentages
1	Age (years)	20 – 35 13 (16.4 %)
		36 – 45 22 (27.9 %)
		46 – 55 38 (48.1 %)
		56 – 65 6 (7.6 %)
2	Gender	Male 45 (57 %)
		Female 34 (43 %)
3	Marital status	Married 73 (92.4 %)
		Unmarried 6 (7.6 %)
4	Religion	Hindu 66 (83.5 %)
		Muslim 8 (10.1 %)
		Christian 5 (6.3 %)
5	Place of residence	Rural 40 (50.6 %)
		Urban 39 (49.4 %)
6	Educational status	Intermediate 3 (3.8 %)
		Graduation 31 (39.2 %)
		Postgraduation 45 (57 %)
7	Type of school	Government 68 (86.1 %)
		Private 11 (13.9 %)
8	Income	< 10000 7 (8.8 %)
		10000 - 30000 7 (5.9 %)
		30000 - 45000 15 (19 %)
		> 45000 50 (63.3 %)
9	No. of children	Nil 9 (11.4 %)
		One 18 (22.8 %)
		Two 45 (57 %)
		Three 7 (8.9 %)

Table 1. Socio Demographic Details of the Participants

Socio-demographic details of the participants (table 1): A total of seventy-nine participants were analysed in the study. Among them, nearly half of the participants belong to the age group of 46 to 55 years. Males constitute 57 % of the sample. Almost all the participants were married (92 %). The majority belong to the Hindu religion (83 %). The sample had almost equal distribution coming from both rural and urban backgrounds. Fifty-seven percent were working as teachers after completing their post-graduation, 39% after obtaining their under graduation, and a very small portion, 4% after their intermediate. Regarding the type of school setting, the majority (86 %) were working in schools maintained by the State Government. Nearly two-thirds reported their monthly salary above forty-five thousand per month. The majority of the participants had two children (57 %).

We included questions to assess the general thought process during the ongoing pandemic. For these questions Forty-eight percent were afraid of getting COVID-19 infection, thirty-four percent reported having repeated thoughts of getting an infection, only four percent contacted a doctor for the fear of being infected, nearly half (48 %) of the participants reported having fear while hearing or seeing news related to COVID-19, half of the participants were worried about their financial status, fifty-four percent felt anger and majority (92 %) reported that they were prepared mentally for the pandemic. The majority have reported that

during their lockdown they were at home together with family, which they feel a happy moment. Worries regarding financial status were more among the participants employed in private schools (McNemar test, $p = 0.047$).

Sl. No.	DASS Subscale	Level	Percentages	Mean (SD)
1	Depression	Normal	62 (78.5 %)	5.01 (4.78)
		Mild	15 (19 %)	
		Moderate	1 (1.3 %)	
		Severe	1 (1.3 %)	
2	Anxiety	Normal	67 (84.8 %)	2.75 (3.46)
		Mild	4 (5.1 %)	
		Moderate	8 (10.1 %)	
3	Stress	Normal	73 (92.4 %)	8.37 (5)
		Mild	4 (5.1 %)	
		Moderate	2 (2.5 %)	

Table 2. The DASS Subscale Scores in the Sample

SD: standard deviation.

The distribution of scores in DASS subscales (Table 2): The mean scores of the sample were 5, 2.8, and 8.4 for depression, anxiety and stress respectively. Similarly, the median scores were 4, 2, and 8 for depression, anxiety, and stress respectively. In the depression subscale; the distribution was 78 % normal, 19 % mild, and 1.3 % each in moderate to severe ranges. In the anxiety subscale; the distribution was 85 % normal, 5 % mild, and 10 % moderate range. Finally in the stress subscale; the distribution was 92 % normal, 5 % mild, and 2.5 % in the moderate range.

Sl. No.	Variable (n = 79)	Depression Median (IQR)	P-Value	Anxiety Median (IQR)	P-Value	Stress Median (IQR)	P-Value
1	Age (years)	20 – 35 7 (3)	0.388	2 (3.5)	0.120	8 (6.5)	0.920
		36 – 45 6 (7)		2 (3.5)		6 (7.5)	
		46 – 55 4 (8)		0 (4)		8 (8)	
		56 – 65 5 (5)		1 (2)		10 (8.5)	
2	Gender	Male 2 (6)	0.016*	2 (4)	0.135	6 (8)	0.029*
		Female 7 (8)		3 (4)		10 (6)	
3	Marital status	Married 4 (6)	0.003*	2 (4)	0.906	8 (8)	0.151
		Unmarried 0 (0)		1 (3.5)		5 (2)	
4	Religion	Hindu 4 (8)	0.027*	2 (4)	0.153	8 (8)	0.249
		Muslim 11 (4.5)		4 (3)		11 (2)	
		Christian 4 (4)		0 (2)		6 (2)	
5	Place of residence	Rural 4 (8)	0.405	2 (4.5)	0.443	8 (10)	0.820
		Urban 4 (7)		2 (4)		8 (6)	
6	Educational status	Intermediate 6 (2)	0.585	2 (0)	0.660	8 (0)	0.377
		Graduation 4 (5)		2 (4)		8 (6)	
		PG 4 (8)		2 (4)		6 (8)	
7	Type of school	Government 4 (6)	0.429	2 (4)	0.369	8 (6.5)	0.239
		Private 2 (8)		0 (4)		6 (6)	
8	Income	< 10000 4 (1.5)	0.191	4 (2)	0.224	7 (4)	0.272
		10000-30000 9 (3.5)		4 (3)		7 (4.5)	
		30000-45000 5 (6.5)		2 (4.5)		12 (5.5)	
		> 45000 4 (7.5)		2 (4)		8 (8)	
9	No. of children	Nil 0 (2)	0.132	2 (4)	0.725	6 (8)	0.776
		One 5 (10)		2 (4)		6 (7.5)	
		Two 4 (6)		2 (4)		8 (6)	
		Three 6 (7)		0 (3)		8 (5)	

Table 3. Comparison of Socio Demographic Details with DASS Subscales

PG: post-graduation, IQR: Inter quartile range. The test used: Kruskal Wallis, Mann Whitney. *p-value < 0.05 is significant

Comparison of the socio-demographic variables with the DASS subscales (Table 3): There was a significant association between gender, marital status, and religion with the depression subscale. Higher median scores were seen with the female gender, married participants, and those belonging to the Muslim religion. There was no significant association between the various demographic variables with the anxiety subscale. There was a significant association between the gender and stress subscale. Stress is reported

more among females than males. There were no other significant associations between the demographic variables and the DASS subscales.

DISCUSSION

Schoolteachers form an integral part of our community. They are responsible for the early training and laying firm cognitive foundations of children. In our Indian society, they are given importance next to the parents. The study focuses on the psychological impact of COVID-19 among schoolteachers. The pandemic created an abrupt and radical change in everyone's lives, thus creating lot of problems and psychological distress too. Schoolteachers were no less affected, they were made to remain away from schools and subsequently had to adapt to the online mode of teaching. There were news reports that teachers were affected because of the changes imposed. Some of them had lost jobs and were struggling to meet their needs because educational institutions were reducing their operating costs.

A study on university teachers in Jordan¹⁴ during the lockdown found that the majority (62.8 %) spent their lockdown time engaging with family members followed by spending time on social media platforms. More than half of the teachers had felt that the pandemic measures have affected their economic status. Two-thirds of their participants faced various degrees of psychological distress and moderate to severe distress was expressed by nearly half of the academic teachers. The authors felt that the higher distress could be related to their academic responsibilities. These findings were in contrast to the current study, the number of participants reporting moderate to severe level of psychological impact were very less. This could be because of the timing with pandemic; their study population belongs to higher education where the academic expectations are at a higher level and also they were near to board examination. We believe that their study being conducted at the early pandemic, when uncertainty about the disease was high could also have provoked more distress when compared to the current study. Regarding the time utilized during the pandemic, even in our study, we found the majority reported spending time with the family. Many have felt that this has helped them to understand their family members better. This might be considered as one of the positive features noted in the COVID-19 pandemic lockdown.

A comparative study on psychological impact among the general population was conducted during the same time in India.¹⁵ The study had found severe levels of depression in 6.1 %, anxiety in 6.7 %, and stress in 5 %. This is in line with the current study on levels of depression, anxiety, and stress distribution. In the current study, the female gender has shown more depression and stress. This is in line with the previous studies.^{16,17}

They felt that the females have a dual role as caregiver and as a professional which might have resulted in increased

psychological impact compared to males. A small descriptive study involving 14 teachers was conducted in Hong Kong by Wong KM et al¹⁸ during the COVID-19 pandemic had found that the unique experience strengthened teachers' motivation and the intrinsic value that teaching affords. They found that teachers were committed to teaching and accompanied the students in their journey of ongoing social uncertainties. A previous study¹⁹ has reported that this can in turn help increase resilience among the teachers. We feel that the low psychological impact reported in the current study could be related to the timing of the study; which is being conducted nearing the end of the pandemic peak and probably the intrinsic resilience among the teachers. All though we have not assessed the resilience, it might have contributed.

The study highlights that schoolteachers have psychological distress in terms of depression, anxiety and stress. The level of distress reported in other studies is varying based on the type of setting and study participants involved. Whatever the level of distress it affects the normal life in some way or the other. As we are witnessing the COVID 19 pandemic is no way near its end and already we are predicted to have future waves of infection. We need to understand that a new normal has to be established and people should get acclimatised to this new norm. We feel that schoolteachers should become well versed with the changing scenarios and online teaching techniques should be incorporated into their training curriculum. They should also receive more emphasis and training on managing stress. Different stakeholders of education should also come together to formulate innovative ideas in making teaching interesting and easy for both teachers and students. The older techniques no doubt are the proven ways, but with the changing times schoolteachers should also change to meet the ongoing problems.

Having said that studies were already conducted on the aftermath psychological effects of pandemic and when routine teaching is restored to previous status. We normally expect that the psychological impact would also settle. Study was conducted in the schools and universities after reopening in Spain.¹⁷ They found a paradoxical increase in anxiety, stress, and depression among teachers. The authors extrapolated stress to the academic context in which they work and change in the measures to be taken without support in terms of material and human resources. Also, the teachers had fear that the opening of schools might increase the chance of children getting infected and spread the disease. So, we believe that just not restoring the normal routine, but attention should be focussed on the aftermath effects of opening schools as well. Future studies should address just not assessing the psychological impact on the teachers during the pandemic but also assess the how it affects the return to normalcy. From the study we believe that even after the normal classroom teaching is restored the direction should be towards integrating the lessons learnt from the pandemic, so in future teachers can be well equipped to handle the situation with ease.

CONCLUSIONS

The study has found an increase in psychological impact among the schoolteachers. But the reported increase is less than that observed during the peak of the pandemic. Females have more depression and stress compared to males. We believe that future studies should not only focus on assessing the psychological impact during the pandemic but also on the aftermath effects. We should integrate the lessons learnt during the pandemic and incorporate into the routine, so it will make us prepared for similar disasters.

Limitations: We feel that rather than a quantitative study, a qualitative study might have explored more information regarding the psychological impact. The sample is small and the participants hailing from Andhra Pradesh, the study findings may not be generalizable.

Data sharing statement provided by the authors is available with the full text of this article at jebmh.com.

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