Assessing Social Distancing Strategies in Government Schools of Delhi, India: A Formative Research Study

Swati Jain[1], Annudeep Bajaj[2], Vikrant Mohanty[3], Shipra Arora[4], Neha Gangil[5], Shekhar Grover[6]

ABSTRACT

Introduction: Coronavirus disease 2019 (COVID-19) pandemic has affected all spheres of life and work. Children have been deeply affected, with >3.34 billion affected learners in India. The present study aimed to assess the awareness regarding social distancing strategies in schools among teachers of Delhi. Further, it explores the attitudes and perceived challenges toward various practical strategies in schools.

Materials and methods: A cross-sectional study (formative research design) was conducted through an online survey. Teachers during the first nationwide lockdown period were contacted through the snowball method. Quantitative analysis was done using Statistical Package for the Social Sciences (SPSS) version 21. For the qualitative responses, summative content analysis was conducted by a data coder who was blinded to the identity of the respondent.

Results: A total of 199 school teachers from various government schools of Delhi participated in the study. Around 49.7% of teachers suggested that online classes would be the best way for appraising children and parents about social distancing, while 24.1% ($n = 48$) of them insisted on the use of social media. A total of 11.05% of the respondents were of the view that preventive strategies are incredibly difficult to implement and execute.

Conclusion: Teacher training and sensitization of parents and children can help overcome the perceived challenges.

Clinical and public health significance: Appropriate COVID-19 preventive strategies implementation remains the mainstay for preventing the transmission of the pandemic among the most vulnerable group—school children. Attempts should be made to tailor-made changes required at the policy as well as school level, understanding the probable school environment and psychological impact, keeping abreast with the local challenges.

Keywords: Coronavirus disease 2019, Formative research, Prevention and control, School, Social distancing.

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INTRODUCTION

The World Health Organization (WHO) declared COVID-19 a global pandemic on 11th March 2020.[1] The disease has taken a huge toll on lives till date; as on 10th June 2021, there have been 29.4 million cases and 359,695 deaths reported so far in India.[2]

Coronavirus disease 2019 (COVID-19) has not just been a health emergency but has also had a serious impact on economic and social aspects, which is yet to be assessed fully.[3] Lockdowns were implemented in nations all around the world to stop the COVID-19 virus. Preventive measures are the only imperative strategy way forward to combat the disease with no specific treatment yet available, especially for the vulnerable population, one of which is children.[4] To stop the spread of the disease, early screening, diagnosis, isolation, and treatment are required. One of the most viable and advocated preventive strategies during this pandemic is social distancing for breaking the chain of transmission.[5]

Maintaining a safe distance between oneself and others who are not members of your family is known as social distancing, often known as "physical separation." It is necessary to keep a distance of at least 6 feet from persons who are not from my household in both indoor and outdoor settings in order to develop social or physical separation.[6]

Coronavirus disease 2019 (COVID-19) has affected the education system in numerous ways impacting about 31,453,440 learners worldwide, as per United Nations Educational, Scientific and Cultural Organization (UNESCO) data.[7] This has compelled a paradigm shift from classroom teaching to virtual classes. This effort was mainly taken to safeguard the health of one of the most vulnerable population, that is, school children.[7–9] This has caused substantial stress, increased screen time, and psychosocial impact on both school children as well as parents and, more importantly, school staff.

India has a huge population base studying in schools, and the pandemic has affected nearly 3.34 billion children (UNESCO data).[7–9] In the National Capital Territory of Delhi, India, only a total of 1,030 government schools exist.[10] This caters to a huge staggering number of 2,619,409 school children in Delhi between classes I and VIII.[11]

[1–6]Department of Public Health Dentistry, Maulana Azad Institute of Dental Sciences, Delhi, India

Corresponding Author: Swati Jain, Department of Public Health Dentistry, Maulana Azad Institute of Dental Sciences, Delhi, India, Phone: +91 9870324442, e-mail: drswatijain2014@gmail.com

All education systems should be ready for schools to reopen when the time comes, regardless of a country's ability to provide appropriate, ongoing access to learning during crises and school closures. Strategic planning is urgently required because this process presents many difficulties for administrative authorities, school employees, parents, and students.

Following social distancing along with other preventive health practices like the use of sanitizers and face masks shall remain the most viable solution to resume school services. Though the solutions are now established, adequate training and planning for practical implementation are still lacking.

Hence, the present study aims to explore the knowledge, awareness regarding social distancing, and other preventive strategies among school teachers in Delhi. Further, it also explores the attitude and perceived challenges toward practical implementation of COVID-19-appropriate behavior in school settings.

MATERIALS AND METHODS

A cross-sectional study (formative research design) was conducted through an online survey carried out by Mobile Dental Clinic Project under National Health Mission from June to July 2020 in Delhi, India. Teachers from various schools of Delhi who had previously collaborated with project were contacted through e-mail during nationwide lockdown and were initially approached for the survey. They were then asked to refer colleagues, that is, teachers from the same or other schools for the survey through a snowball method. The number of teachers who responded during the study duration was included in the study.

The Institutional Ethical Committee examined and approved the study design prior to the survey. All study participants gave informed consent after being informed of the objectives and design of the investigation. The survey instrument was a 22-item structured online questionnaire (including both closed and open-ended questionnaires). The questionnaire was used after validating and pilot testing. The questionnaire was validated by five school teachers and checked for internal consistency by test–retest method (Cronbach's α value = 0.89).

The questionnaire was divided into five sections—(1) sociodemographic information of the study respondents; (2) knowledge regarding social distancing and other COVID-19 appropriate preventive strategies; (3) feasibility of infrastructural/administrative modifications to implement social distancing/preventive strategies for COVID-19 in schools; (4) feasibility of implementation of COVID-19 appropriate behavior; (5) open-ended questions to explore the perceived challenges toward various infrastructural and functional modifications required in school for COVID-19.

Data Analysis

The Microsoft Word Excel Sheet 2007 version was used to enter and process all of the quantitative responses (closed-ended questions). Descriptive and analytical statistics were applied.

A data coder who was blinded to the respondent's identity carried out summative content analysis[12] on the qualitative responses. Individual keywords determined for each question were prepared into the coding tree. Following that, the replies were grouped and assigned to distinct themes that stood alone from one another. The essential words were chosen or created in this way to emphasize the comprehension of each segment. An independent coder performed repeat coding and matching for every fifth respondent to examine the consistency of the keywords. Then, for each question in each part, all of the relevant frequency trends of the observed keywords were then analyzed using SPSS version 21.

RESULTS

The present study provided insight into the awareness, knowledge, attitude, and perceived challenges toward COVID-19 preventive strategies. Further, insight has been provided toward the scope of practical implementation of these strategies in schools in Delhi. A total of 199 school teachers from various government schools of Delhi participated in the study. The mean age of the study participants was 40.59 ± 10.05. Majority of the study participants (94.5%) were females with work experience from <1 to 40 years (mean number of years of experience = 12.9 ± 4.3). Around 3% of them (N = 6) had a postdoctoral degree, while a majority of study participants (N = 141, 70.85%) were with a postgraduate qualification.

Knowledge Regarding "Social Distancing" and Other COVID-19 Preventive Strategies

Nearly 91% (N = 181) of teachers were of the view that the implementation of social distancing in educational institutes is absolutely essential.

With regard to the medium of sensitization of students/parents on social distancing and COVID-19 preventive strategies by school staff (Table 1), 49.7% of (n = 99) teachers suggested that the online method would be the best way for appraising students, parents, and teachers, while 24.1% (n = 48) of them insisted on the use of social media.

- Around 61.8% (n = 123) of teachers were aware of the ideal distance for social distancing, that is, 6 feet, while only 8% of teachers thought 5 feet to be the ideal distance for social distancing. Interestingly, the knowledge regarding ideal distance for social distancing was better among senior teachers, the difference being statistically significant (Table 2, p = 0.046, Chi-squared test).

The relationship between age and willingness to continue the implementation of social distancing strategies even after the COVID-19 pandemic revealed that; young teachers (20–35 years of age) significantly were in agreement as compared to senior staff, (Table 3, p = 0.012, Chi-squared test).

Feasibility of Infrastructural/Administrative Modifications (Table 4)

- A total of 74.9% (n = 149) of teachers believed that informing parents, students, and school staff of necessary changes would be a highly effective administrative strategy. Online study

Table 1: Capacity building strategies for implementation of social distancing to sensitize students/parents?

Responses	N	%
Online classes	99	49.7
Parents–teacher meetings	39	19.6
Role plays	7	3.5
Social media	48	24.1
Written material	6	3.0
Total	199	100.0

Table 2: Relationship between years of work experience and knowledge regarding social distancing

		Numbers of years of experience			
		0–5	6–10	11–15	16–20
Q3 What is the ideal measure for social distancing	3 feet	14	14	3	5
	4 feet	8	6	3	5
	5 feet	5	3	0	7
	6 feet	37	20	14	49

Table 3: Relationship between the age of teachers and willingness to continue social distancing strategies

		Age category		
		20–35 years	36–50 years	51 and above
Q If given a chance, would you continue implementing "social distancing strategies" even after the corona crisis gets over?	Definitely no	2	0	2
	Definitely yes	28	21	7
	No	5	21	8
	Yes	40	41	24

Table 4: Strategies of infrastructural/administrative implementation of social distancing/preventive strategies for COVID-19 in schools

	Responses				
Strategies	Absolutely ineffective	Ineffective	Can't say	Effective to some extend	Highly effective
Informing parents, students, and school staff of necessary changes	2 (1%)		5 (2.5%)	43 (21.6%)	149 (74.9%)
Online study material for students	1 (0.5%)	3 (1.5%)	3 (1.5%)	89 (44.7%)	103 (51.8%)
Canceling morning assemblies	2 (1%)	5 (2.5%)	11 (5.5%)	44 (22.1%)	137 (68.8%)
Rearranging desks to increase space between students	2 (1%)	2 (1%)	4 (2%)	56 (28.1%)	135 (67.8%)
Duty roster for teachers (at a time 50% of staff to work in school)	2 (1%)	7 (3.5%)	21 (10.6%)	69 (34.7%)	100 (50.3%)
Staggered/shorter lunchtime for classes	6 (3%)	14 (7%)	25 (12.6%)	76 (38.2%)	78 (39.2%)
Segregate recess area for classes	8 (4%)	8 (4%)	15 (7.5%)	66 (33.2%)	102 (51.3%)
Shut down cafeteria	7 (3.5%)	2 (1%)	17 (8.5%)	42 (21.1%)	131 (65.8%)
Odd/even day of school for students	5 (2.5%)	4 (2%)	17 (8.5%)	55 (27.6%)	118 (59.3%)
Shortened number of working hours	3 (1.5%)	12 (6%)	24 (12.1%)	71 (35.7%)	89 (44.7%)
Increasing online classes components	2 (1%)	3 (1.5%)	10 (5%)	72 (36.2%)	112 (56.3%)

material (51.8%, $n = 103$), rearranging desks to maintain social distancing (67.8%, $n = 185$), and shutting down of cafeterias (65.8%, $n = 131$) were also considered highly effective for infrastructural modifications in schools as COVID-19 preventive strategy.

Feasibility of Implementation of COVID-19 Appropriate Practices (Table 5)

Regarding preventive strategies, 70.9% ($n = 141$) of the teachers said that installing hand sanitizer dispensers in classes would be highly feasible as a preventive strategy. A total of 73.9% ($n = 147$) of teachers believed that educating students to avoid touching their faces would be an effective preventive measure to prevent COVID-19 spread, while 60.3% ($n = 120$) were in favor of regular training by healthcare professionals in schools will reinforce preventive behavior.
- Around 58.3% ($n = 116$) of teachers were in favor of conducting online trainings regarding infection control for the education of students/staff. Nearly 52.8% ($n = 105$) of teachers agreed to continue with the implementation of social distancing strategies even after COVID-19 pandemic is over or effectively controlled. Further, the perceived challenges in the implementation of COVID-19 preventive strategies in schools were also assessed using qualitative analysis.

Perceived Challenges in Implementation of Social Distancing Strategies

It was interesting to note that the majority of study respondents considered infrastructural barriers, such as "shortage of space (57.3%, $N = 114$)" as the major limiting factor in the school. In response, a participant said that "limited school space might result in difficulties in maintaining social distancing in schools." Limited human resources in the form of a "shortage of school staff" was the next most cited perceived challenge for the implementation of social distancing strategies.

Table 5: Feasibility of health monitoring-related strategies for COVID-19 in schools

	Responses				
Strategies	Not feasible	Feasible to some extend	Feasible but with difficulty	Can't say	Highly feasible
Handwashing between every period	12 (6%)	72 (36.2%)	16 (8%)	16 (8%)	83 (41.7%)
Having hand sanitizer in classes	3 (1.5%)	51 (25.6%)	3 (1.5%)	1 (0.5%)	141 (70.9%)
Daily sanitizing of desks and door handles	2 (1%)	39 (19.6%)	11 (5.5%)	6 (3%)	141 (70.9%)
Educating students to avoid touching face	2 (1%)	43 (21.6%)	5 (2.5%)	2 (1%)	147 (73.9%)
Screening of students and staff for fever status/influenza-like illness	3 (1.5%)	50 (25.1%)	6 (3%)	8 (4%)	132 (66.3%)
Regular training by healthcare professionals	6 (3.5%)	65 (32.7%)	3 (1.5%)	5 (2.5%)	120 (60.3%)

Impact of Social Distancing Strategies on Overall School functioning

Coronavirus disease 2019 (COVID-19) preventive strategies, such as virtual school platform and minimal physical contact between teachers and students would markedly impact the overall functioning of schools in the long run. Teachers provided in-depth responses when asked how social distancing strategies would influence overall school functioning. Around 11.05% of the respondents were of the view that such strategies are incredibly difficult to implement and execute on a day-to-day basis. Nearly 10.5% suggested that regular monitoring of social distancing strategies would cause delays in meeting deadlines and completing the syllabus. On the contrary, 4.02% of the teachers considered that online teaching strategies would improve work efficiency. In response, "social distancing if properly implemented can lead to much better environment for students to study, but it is very difficult task as children can't be stopped from shaking hands and sharing lunches."

In another response, it was mentioned "social distancing strategies would require more resources, more funds, more staff, and difficult to execute."

Discussion

The virus has now spread throughout the entire world, and the COVID-19 epidemic has been classified as a public health emergency of international concern. Recent reports of the second wave of COVID-19 throughout the world suggest the symbolic role of transmission by asymptomatic carriers among humans.[13] Hence, "preventive measures" like "social distancing," hand hygiene, and other preventive strategies remain the mainstay for combating this pandemic.

The present study was conducted to assess the knowledge and awareness level among teachers regarding the feasibility of implementing various COVID-19-appropriate preventive strategies in schools. Further, qualitative insight has also been provided regarding the attitudes and perceived challenges for the workspace modifications required in schools. It is important to take precautions to stop the possible spread of COVID-19 in educational settings, but it is also important to avoid stigmatizing students and staff who may have been exposed to the virus. While minimizing disturbance and protecting them, schools can take steps to stop the spread of COVID-19 among kids and staff who may have been exposed to the virus. The practice of social distancing is the most advocated and viable preventive measure for this pandemic.

A total of 199 school teachers from different schools across Delhi participated in the study. Out of these, 94.5% (N = 188) were females, which is in accordance with the study conducted by Islahi and Nasreen, where teaching is the most preferred and popular profession among females. Also, female teachers are reportedly more encouraging, expressive, loving, informal, and open with pupils. They also devote a substantially higher percentage of their time to promoting and enabling student participation.[14] Majority of the participants were postgraduates, as getting a master's degree gives you the chance to study about a particular subject of interest through targeted education, developing your technical skills, and opening up more work prospects.[15]

Knowledge Regarding Social Distancing and Other Preventive Measures for COVID-19

It is crucial to maintain social distancing in both indoor and outdoor settings to prevent the COVID-19 virus from spreading from one student to another. In the present study, 91% of the participants considered that social distancing implementation in educational institutions is absolutely essential. Social distancing strategies are crucial for schools to implement in order to maintain the continuity of children's safe, adequate, and appropriate educational and social learning development, according to WHO guidelines regarding considerations for school-related public health measures in the context of COVID-19.[16]

In our study, 49.7% of teachers believed that the most effective way of sensitizing students and parents regarding social distancing is by online classes/study material. Most of the students and parents are aware of the adaptation or modification required. "The pandemic has altered how we teach. It has made it possible for me to communicate with my students more effectively and efficiently through chat rooms, video conferences, online homework or tests, and online document sharing." This is in alliance with the Centers for Disease Control and Prevention (CDC) guidelines as well, which emphasizes the expanded considerations on planning and preparing schools before school opening, insisting on online/virtual training/classroom platforms.[17,18]

It was interesting to note that most of the teachers were well aware of at least 6 feet distance between the students to prevent interpersonal transmission. In order to prevent transmission, the CDC also advised keeping a minimum of 6 feet (about two arms' length) away from individuals who are not members of your household in both indoor and outdoor settings.[15,17]

Furthermore, experienced teachers were better appraised regarding ideal social distancing norms as compared to young teachers—the difference being statistically significant. Similar results were cited by a study done by Donkoh, 2017, that more experienced teachers were relatively better than inexperienced

colleagues as they have gained direct experience during the discharge of their professional responsibilities.[19] Contrary to this, young teachers were adaptive to the various social distancing strategies and were willing to advocate and implement them even after the pandemic was effectively managed or controlled, which may be clearly attributed to the ease of use of online portals among young staff as compared to senior staff (age >50 years).

In the present study, 68.8% of teachers believed canceling morning assemblies is necessary to prevent the spread of COVID-19 as close restricted areas in school can lead to the spread of COVID-19. In order to reduce class mixing for after-school activities, United Nations International Children's Emergency Fund also suggests increased desk spacing (at least 1 m between desks) and staggered recesses to prevent congestion during COVID-19 time.[20]

- Around 74.9% of teachers stated that informing parents/students and school staff about necessary changes is essential for the prevention of the spread of infection. COVID-19 preventive strategies should be followed by staff, students, and teachers so as to prevent the spread in school, and social distancing norms have to be strictly adhered to by everyone. Teachers also need to make parents aware of the importance of online study material and their use so that studies are not hampered.

Feasibility of Health Monitoring-related Strategies

Following preventive strategies in schools would require various infrastructural and school health monitoring-related modifications. The majority of the teachers believed that "educating students to avoid touching face" would be the most feasible strategy for the prevention of COVID-19. WHO has also advocated three strategies to prevent COVID-19, which are—"1. Wash your hands frequently, always with soap and water for at least 20 seconds. 2. Remember not to touch your face, eyes, nose, and mouth. 3. Do not share cups, eating utensils, food, or drinks with others."[21]

Qualitative insight was probed regarding the roadblocks/challenges most feared among the teachers. "Shortage of space" and "shortage of school staff" were the most cited responses. As per the print media report as well "according to private school management representatives, many of the teachers have changed their profession due to uncertainty over reopening of schools, while many of those conducting online classes are not prepared to attend physical classes as their family members are not ready to send them back to work."[22] Another leading newspaper of India had previously reported "teachers' travails: Battling crowded classrooms and non-teaching duties" among the major issues in Delhi government schools.[23] As per the education statistics by the Government of India, the pupil–teacher ratio in senior secondary schools is 37.[24] In terms of student–teacher ratio in higher education, India lags behind other nations, notably Brazil and China, which already has an effect on the caliber of teaching and research.[25] Pandemic like COVID-19 has worsened the impact on student learning.

To encourage school administrators, teachers, staff, parents, carers, and community members, as well as kids themselves, to promote safe and healthy schools, this study offered advice, essential messages, and things to think about. The limited sample size collected through snowball sampling method remained the primary limitation of the study.

CONCLUSION

The purpose of this study was to assess the knowledge and awareness regarding social distancing and other preventive strategies among school teachers in Delhi so as to offer practical advice for preventing COVID-19 in schools and other educational facilities in order to ensure safe operations. Teacher training and sensitization of parents and children can help overcome the perceived challenges. Further, it is recommended that school authorities should organize these strategies as per their specific school settings. Various COVID-19 preventive strategies should be reinforced time and again for better compliance from school children and their parents.

CLINICAL SIGNIFICANCE

Appropriate COVID-19 preventive strategies implementation remains the mainstay for safeguarding the outbreak of the pandemic among the most vulnerable group—school children. Attempts should be made to tailor-made changes required at the school level, understanding the probable psychological impact and challenges in teaching it may cause. Further, counseling of students and teachers to cope up with the stress would open up the path toward normalization.

ORCID

Swati Jain https://orcid.org/0000-0003-3650-7623

REFERENCES

1. Di Gennaro F, Pizzol D, Marotta C, et al. Coronavirus diseases (COVID-19) current status and future perspectives: a narrative review. Int J Environ Res Public Health 2020;17(8):2690. DOI: 10.3390/ijerph17082690
2. https://www.mohfw.gov.in. Page last accessed on 11th Jan. 2021. Page last updated on 11th Jan 2021.
3. https://www.who.int/mental_health/evidence/en/prevention_of_mental_disorders_sr.pdf. Page last accessed on 1 Sep 2020. Page last updated on 1 Sep 2020.
4. Peck KR. Early diagnosis and rapid isolation: response to COVID-19 outbreak in Korea. Clin Microbiol Infect 2020;26(7):805–807. DOI: 10.1016/j.cmi.2020.04.025
5. Nicola M, O'Neill N, Sohrabi C, et al. Evidence based management guideline for the COVID-19 pandemic – review article. Int J Surg 2020;77(2):206–216. DOI: 10.1016/j.ijsu.2020.04.001
6. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html.Page last accessed on 1 Sep 2020. Page last updated on 31st July 2020.
7. https://en.unesco.org/covid19/educationresponse. Page last accessed on 4th Aug 2021. Page last updated on 1st Aug 2020.
8. Kaup S, Jain R, Shivalli S, et al. Sustaining academics during COVID-19 pandemic: the role of online teaching-learning. Indian J Ophthalmol 2020;68(6):1220–1221 DOI: 10.4103/ijo.IJO_1241_20
9. Jena PK. Impact of pandemic COVID-19 on education in India. Int J Curr Res 2020;12(7):12582–12586. DOI: 10.24941/ijcr.39209.07.2020
10. http://edudel.nic.in/mis/eis/frmSchoolList.Page last accessed on 12th January 2021. Page last updated on 12th January 2021.
11. http://dashboard.seshagun.gov.in/mhrdreports/#/reportDashboard/sReport.Page last accessed on 12th January 2021. Page last updated on 12th January 2021.
12. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res 2005;15(9):1277–1288. DOI: 10.1177/1049732305276687
13. Gao Z, Xu Y, Sun C, et al. A systematic review of asymptomatic infections with COVID-19. J Microbiol Immunol Infect 2021;54(1):12–16. DOI: 10.1016/j.jmii.2020.05.001
14. Islahi F, Nasreen. Who make effective teachers, men or women? An Indian perspective. Univers J Educ 2013;1(4):285–293. DOI: 10.13189/ujer.2013.010402

15. https://www.schoolapply.com/blog/posts/2017/march/5-reasons-to-pursue-a-masters-degree/ Page last accessed on 19th october 2020.

16. WHO/2019-nCoV/Adjusting_PH_measures/Schools/2020.2. Page last accessed on 19th Oct. 2020. Page last updated on 19th Oct. 2020.

17. https://www.cdc.gov/coronavirus/2019-ncov/community/schools childcare/schools.html. Page last accessed on 19th Oct. 2020. Page last updated on 1st Sept 2020.

18. Faherty LJ, Schwartz HL, Ahmed F, et al. School and preparedness officials' perspectives on social distancing practices to reduce influenza transmission during a pandemic: Considerations to guide future work. Prev Med Rep 2019;14:100871. DOI: 10.1016/j.pmedr.2019.100871

19. Donkoh S. Investigating the effect of teaching experience on teacher knowledge. Int J Sci Res 2017;7(6):319–327.

20. https://www.unicef.org/coronavirus/teacher-tips-classroom-precautions-covid-19/ Page last accessed on 19th October 2020. Page last updated on 19th October 2020.

21. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/coronavirus-disease-covid-19-schools. Page last accessed on 12th December 2020. Page last updated on 12th December 2020.

22. https://www.deccanherald.com/state/ahead-of-reopening-schools-stare-at-teacher-shortage-907370.html. Page last accessed on 12th December 2020. Page last updated on 26th Oct 2020.

23. https://www.hindustantimes.com/india-news/teachers-travails-battling-crowded-classrooms-staff-shortages-and-several-non-teaching-duties/story-4Vcn6sujpCqaTa2eXVQh9J.html. Page last accessed on 12th December 2020. Page last updated on 4th Sept. 2016.

24. Educational statistics at a glance. Government of India. Ministry of Human Resource Development. Department of School Education & Literacy Statistics Division New Delhi 2018.

25. https://www.outlookindia.com/newsscroll/indias-higher-education-studentteacher-ratio-lower-than-brazil-china/1574612. Page last accessed on 14th December 2020. Page last updated on 14th July 2019.