

Level of Awareness of Preventive Protocols Amongst Special Educators in Schools During Covid-19

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Abstract:

Objective: The objective of the study was to assess the knowledge of special educators on COVID-19, impart evidence based scientific information through health education program and reassess the knowledge through a self-constructed close ended questionnaire. The aim to educate and recommend alternate ways of maintaining COVID safe environments in special school's post pandemic.

Material and methods: A total of 42 special educators participated in the study. The knowledge of special educators on COVID-19 was assessed through self-constructed pre-test form. Post health education, knowledge gained was reassessed with help of the same close ended questionnaire. A power point presentation on COVID-19, including evidence based scientific information was done. This was followed by an interactive session. The obtained responses were tabulated evaluated for the correct and incorrect responses. The results obtained were subjected to statistical analysis.

Results: A statistically significant increase in the level of knowledge and understanding about COVID-19 was established from the results obtained.

Keywords: COVID-19, Special educator, Children with Special Health Care Needs (SCHN), Health education, Health promoting schools, Special schools, COVID safe protocols, Samagra Shikshana Karnataka, Zilla panchayat Dakshina Kannada (D.K) District.

INTRODUCTION

Special education aims to provide education to students with specific educational, social, behavioral, medical and physical needs. Education for these children is delivered in different ways by special educators. Special educators play an essential role of ensuring that students with disabilities or special needs receive quality education ^[1]. These children may have challenges pertaining to their levels of immunity, intellect, behavior, ability to cope, communicative disorders to mention a few. Special education services are individualized for each student to give them the proper accommodations to meet the needs of their specific goals in hope to make adequate progress ^[2]. The COVID-19 pandemic has completely disrupted the structured school program for children with special health care needs (SCHN).

Teachers of children with special health care needs are the strata of educators who are expected to face gruesome challenges. Traditional educational methods for special children, face to face instruction receives high ratings as it helps these children in a classroom setting ^[3]. “The best reactive response was to limit personal interactions amongst large groups and to keep a certain distance to limit the spread of COVID-19” ^[4].

However, with the pandemic surging, maintaining the same infrastructure and altering the space, seating patterns and teaching methods may be the changes to look forward to in the future. A clear understanding of how such alterations can be met through the special educator is the need of the hour. To impart adequate information to the special children and their care takers, the special educators need to be well informed and enhance their level of awareness to the challenges faced during the pandemic, which includes simple tasks like wearing masks, sanitizing and social distancing. The schools remained closed for long periods of time and the children with special needs will need longer duration of time to cope and fit into the regular routine. The long break would have interfered with their sense of structure, emotions, security and predictability. The paramount importance of a special educator is to understand the emotional needs of the child and help them cope with the new precautionary guidelines that will be enforced upon them keeping their safety as a priority when the schools reopen post pandemic. Studies have identified the importance of special educators and

parents being on the same page ^[5], this will enable smooth functioning when schools are ready to re-open. Special educators with right awareness on COVID-19 precautionary measures will help educate care providers of children with SCHN too. This collaborative effort by both may make it easier to enforce safety measures with less resistance from parents and children. This study will assess the knowledge of the special educators in regard to COVID appropriate behavior in special schools. Awareness, on COVID- 19 and safety protocols to follow in schools is a matter of concern. Presence of a well informed and trained special educator on essential areas of the pandemic, will be a key determinant ^[6] when special schools are ready to re-open.

The objective of the study was to evaluate the level of awareness and find alternate ways of maintaining covid safe environments in special school's post pandemic.

MATERIAL & METHODS

Source: 42 special educators from various special schools in Mangalore north and south zone participated in this extensive teacher training program on COVID-19 safety protocols to be followed in special school's post pandemic. Access to these educators by the NITTE special child care centre (NSPECC) was gained through the Block Education Office (Mangalore North and South Zone), Zilla Panchayat, Dakshina Kannada District, Government of Karnataka.

Self-administered questionnaires with close ended questions were provided to the participants of the awareness program to evaluate knowledge on safety protocols, mode of transmission of COVID-19, mouth masks, mask hygiene, disinfecting protocols and social distancing in class rooms. Assessment of knowledge of special teachers on COVID-19 was done by a pre -test form. This was followed by a training session which was pre- planned for a period of 100 to 120 mins through power point presentations. Demonstration of hand hygiene, right method of donning and doffing of mask, mask hygiene and seating arrangements in the classroom post covid was carried out. Followed by an interactive session, the educators were invited to express their concerns and anxieties regarding reopening and management of the special need's children. Post- test forms evaluated the knowledge gained in this session. Results obtained from the survey was tabulated and subjected to statistical analysis.

Statistical methods:

1. The data is analysed using MS Excel and **R-4.0.5** software.

2. All the tests of significance are carried out at **5%** level of significance.
3. The statistical methods used are:
 - a. Descriptive Statistics – frequency tables, Summary Statistics.
 - b. Diagrammatic Representation – Multiple bar diagram
 - c. Inferential Statistics – Paired t-test.

Results tabulated:

Table 1. Responses to the Pre and Post talk Questionnaire

Sl.No.	Question	Responses	Pre-talk	Post-talk
01	CORONA!!! Is it a virus or bacteria?	Wrong	4 (9.5)	0 (0)
		Correct	38 (90.5)	42 (100.0)
02	Mandatory steps to follow before entering the class room	Wrong	12 (28.6)	4 (9.5)
		Correct	30 (71.4)	38 (90.5)
03	Mode of transmission of Covid	Wrong	14 (33.3)	11 (26.2)
		Correct	28 (66.7)	31 (73.8)
04	Symptoms of Covid	Wrong	13 (31.0)	3 (7.1)
		Correct	29 (69.0)	39 (92.9)
05	How long will you wash your hands	Wrong	19 (45.2)	4 (9.5)
		Correct	23 (54.8)	38 (90.5)
06	Ideal social distancing to be maintained	Wrong	27 (64.3)	20 (47.6)
		Correct	15 (35.7)	22 (52.4)
07	What type of classroom scenario would you recommend during the pandemic	Wrong	30 (71.4)	35 (83.3)
		Correct	12 (28.6)	7 (16.7)
08	Preferred mouth mask for your child	Wrong	29 (69.0)	39 (92.9)
		Correct	13 (31.0)	3 (7.1)
09	Do the special children consent to wear mouth mask?	Yes	9 (21.4)	20 (47.6)
		No	33 (78.6)	22 (52.4)

10	Awareness of alternative mask	Wrong	25 (59.5)	32 (76.2)
		Correct	17 (40.5)	10 (23.8)
11	Methods for hand protection	Plastic gloves	20 (47.6)	12 (28.6)
		Socks	5 (11.9)	1 (2.4)
		Mittens	1 (2.4)	1 (2.4)
		Plastic gloves, socks	1 (2.4)	1 (2.4)
		All of the above	15 (35.7)	27 (64.3)
12	Recommended seating arrangements in the class:	Diamond pattern	5 (11.9)	-
		Zig zag	3 (7.1)	9 (21.4)
		Three feet apart	17 (40.5)	4 (9.5)
		Diamond pattern, three feet apart	2 (4.8)	-
		Diamond pattern, Zigzag	-	1 (2.4)
		Zigzag, Three feet apart	-	1 (2.4)
		Zigzag, All of the above	-	1 (2.4)
		All of the above	15 (35.7)	26 (61.9)
13	Room recommendation for the class	Wrong	1 (2.4)	1 (2.4)
		Correct	41 (97.6)	41 (97.6)
14	How do you disinfect the windows, railings and classroom furniture post Covid	Wrong	36 (85.7)	5 (11.9)
		Correct	6 (14.3)	37 (88.1)
15	How will you respond to a child tested positive	Wrong	21 (50.0)	10 (23.8)
		Correct	21 (50.0)	32 (76.2)
16	How will you cough/sneeze?	Wrong	29 (69)	2 (4.8)
		Correct	13 (31)	40 (95.2)

Table 2. Descriptive Statistics of Total score in Pre and Post talk:

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Total Score - Pre	42	2	10	6.81	2.361
Total Score - Post	42	5	11	9.05	1.147

Table 3: To check whether there is any significant different between the knowledge scores before and after the talk.

Variable	Mean	Std. Deviation	t	df	Sig. (2-tailed)	Conclusion
Pre-talk	6.81	2.361	-6.156	41	0.00001	Significant
Post talk	9.05	1.147				

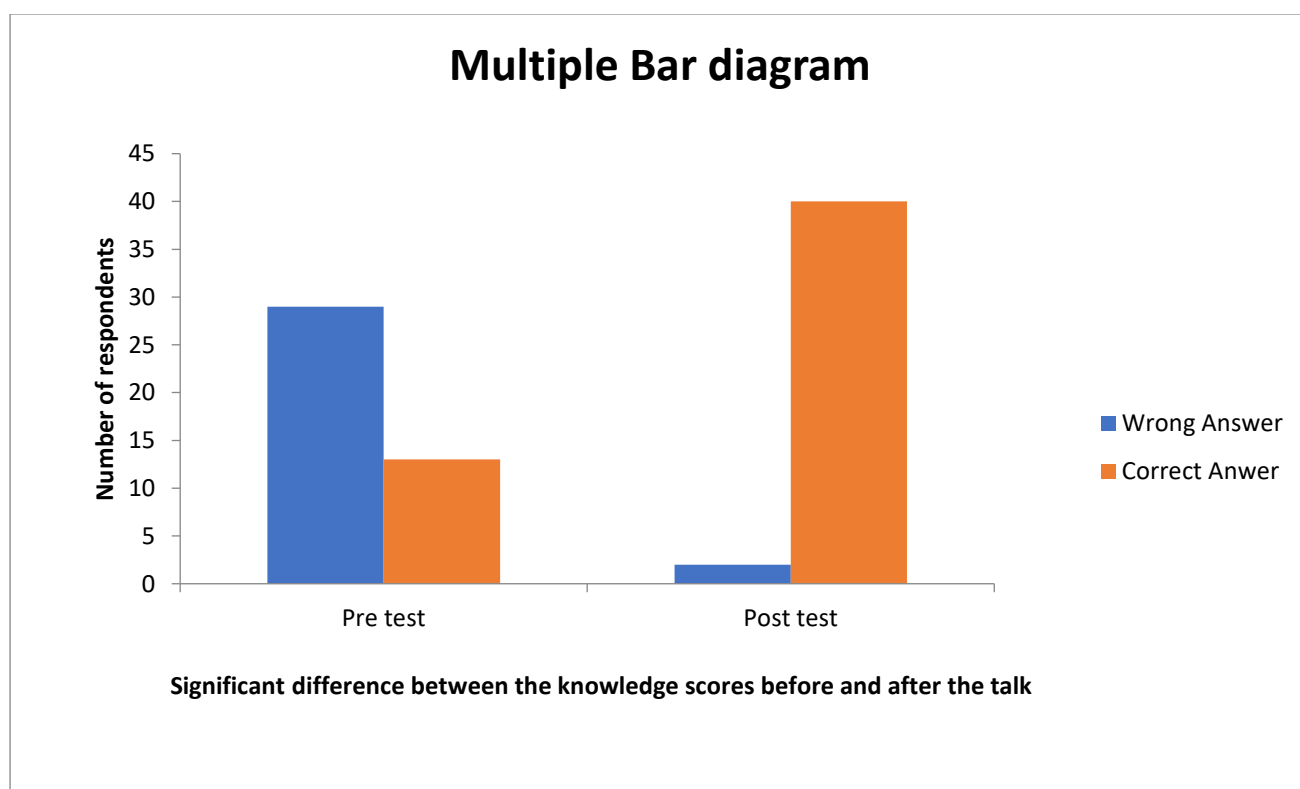


Figure 1: Significant difference between the knowledge scores before and after the talk

DISCUSSION:

Special educators are identified as service providers for special children. Evaluating the level of awareness on safety protocols during the pandemic amongst the special educators is an effort. To implement correct protocols in the special schools, post COVID an extensive educative session backed with scientific evidences was conducted for special educators. The training program was initiated to assess, educate and reinforce existing knowledge of the special educators on current pandemic which was conducted by the staff of NSPECC which included evidence-based information about the virus, its transmission and progression. Since COVID-19 involves transmission through contact and air, imparting appropriate scientific information to the special educators was the main objective of our health program which will focus on creating “HEALTH PROMOTING SCHOOLS” [7]. The primary focus will be on minimizing or keep the transmission of the airborne COVID-19 minimal.

NSPECC (Nitte special child care centre), a unique setting for interdisciplinary, integrated health care unit, works in collaboration with Samagra Shikshana Karnataka, DK District Zilla Panchayat, an education unit of the Government of Karnataka. School health program is a part of the outreach initiatives of the Department of Paediatric & preventive dentistry, the governing body of NSPECC. One of the pillars of this program is to impart value added health information. In keeping with this, awareness talks on COVID- 19 including various Do’s and Don’ts were arranged for the special educators at the LIONS SPECIAL SCHOOL, Suratkal, Mangalore, Karnataka state. Stringent covid appropriate protocols for seating arrangements, ventilation and wearing of mask were followed throughout the awareness program.

Understanding what works for special children and areas calling for refinement while schools reopen post pandemic is a concern. The onus to maintain a COVID safe environment lies in the hands of special educators. Providing special educators with all essential tools to confidently carry out their duties by providing them with needed knowledge and awareness on same will be beneficial when school resumes. They will seize this opportunity to voice their concerns, if any on COVID-19 and management of special children in school during the interactive sessions.

The special educators conducted online classes for the special children during the pandemic (as per the protocols put forth by the government of Karnataka) and this helped them understand the

challenges faced by the special children with regards to face mask, hand sanitization and social distancing.

“Preventive measures such as: good hygiene practices — hand washing, cough etiquette, disinfection of surfaces and social distancing represent the major weapons against COVID-19” [8]. The knowledge of the special educators on the same was assessed with the help of self-constructed close ended questionnaire.

Protocols to be followed prior to entering classrooms:

Of the 42 special educators, 71% were knowledgeable about relevant protocols like use of hand sanitizers, recording body temperature with thermal sensors, use of mouth masks, to be followed prior to entering class rooms.

Post awareness session 90% of the teachers were aware of the mandatory protocols to be followed. Though this was not statistically significant, a 19% increase in percentage of awareness definitely indicates that the special educators were lacking on reliable scientific information on personal protection protocols.

Knowledge on symptoms of covid:

69% of the special educators were aware on the various symptoms of covid prior to the health program which increased by another 24% post health talk and this was statistically significant. This justified that the health program could achieve its prior set goal of creating health promoting schools by increasing the spread of right knowledge through teachers by numbers.

Hand hygiene:

Special children may require enhanced hand protection during COVID times. Besides the regular handwashing with soap and water protecting their hands against contact transmission may be of paramount importance [9]. This can be minimized by use of various hand protective aids like plastic gloves, socks and mittens. Alternatives to regular gloves may be essential as these children may have a number of sensitivity issues to textures and fabrics. Being knowledgeable of these simple alternatives may be helpful. 36% of the teachers were aware of the same prior to the awareness program and an increase of another 28% was noted post talk which was statistically not significant.

Social distancing:

Maintaining safe distance between students in classes, are strategies followed to reduce spread of infection ^[10]. Optimal physical distance is uncertain and until reliable vaccines are available, non-pharmaceutical measures like social distancing have to be practiced rigidly ^[11]. Social distancing was one of the suggested recommendations to reduce spreading of the epidemic ^[12]. The recommended social distance during the pandemic is 6 feet which may be impractical for special children based on their wide needs. 36 % of attendees of the talk were aware of the right distance to be maintained. An increase by a further 16 % was noted post talk. Maintaining a 3 feet distance may be practical in the classrooms keeping in mind that the infrastructure cannot be altered in pre-existing schools. Of the 42 special teachers 24 of them were aware of the mandatory distance (6feet) to be maintained. Post-talk the numbers of consent increased amongst teachers to maintain the ideal distance of 6 feet as it was etched strongly through the power point presentations. Conducting repeat appropriate awareness on hand hygiene and social distancing, maybe recommended to optimise child compliance ^[8].

Seating arrangements in classrooms:

Maintaining social distance is yet another way of preventing contact transmission and seating arrangements in classrooms may need alteration to reduce risk of transmission due to proximity. Since the infra structure of a classroom cannot be altered much, the seating arrangement can be restructured to facilitate covid safe classes. A specific seating pattern may become a habit ^[13] to many of the special children, making minor changes for covid appropriate safe classes may be a challenge. "Classroom arrangement significantly influences students' behavior" ^[14]. "Interpersonal distance is a classical construct in social psychology" ^[15-16]. A sudden change in seating patterns in classrooms may not be well accepted by many special children. Keeping these psychological factors in mind and social distancing to be followed post pandemic, a zig zag pattern of seating arrangement was recommended. Interpersonal distance will not affect all the children in a similar way ^[17].

The suggested seating patterns in the awareness program were zig zag, diamond shaped and 3 feet apart. This can be done through alternating seating patterns. This awareness was recorded in 36% of educators prior to talk and an increase by 26% post talk.

Classrooms:

The current pandemic will restructure the traditional classroom learning to hybrid learning. There will be a combination of indoor-outdoor and online classes. This may be influenced by the needs of the special children and on their limitations on mobility if any. School reopening may be beneficial for special needs children as their routines have gone haywire, management of these children may be a challenge in certain home environments. Online classes may also be difficult as keeping them physically still is a challenge and their focus may be divided and fragmented. Knowledge on hybrid classes was recorded in 29% of teachers, however a dip to 17% was observed post talk, which is not in line with our recommendations. This dip may be due to lack of clarity on understanding on different concepts of class rooms and need for utilization of open space to avoid risk of transmission. We can reinforce the need of hybrid learning within the given limitations and educate them on the benefits of the same through ongoing continuing education programs. A combination of indoor, outdoor and online learning will refresh the special children which can have positive health benefits.

Mouth mask:

All children, not only children with special needs, benefit from structured routines¹⁸. Special children may be anxious, reluctant, irritable and unable to understand the necessity of wearing masks. If compliance is difficult, the child should not wear the mask and other alternative methods for self-protection to lower exposure to infection, such as staying at home, should be used instead. Knowledge on alternatives for mouth mask in children with special needs may be essential ^[19]. A face shield is a suggested alternative in special children who can't adapt to a mask well ^[20]. Amongst the special educators a total of 41% were able to recognize the right type of mask and were aware of alternatives. Post talks these numbers dipped further to 24%. Probably another grey area that will need clarifications and continuing health education programs.

Room recommendation:

Good ventilation has long been advocated as a key preventive approach for reducing the risk of indoor airborne transmission ^[21]. For certain indoor activities, the danger of airborne transmission is much higher ^[22 - 24]. Special children have a lot of indoor activities planned through the day for academic and extracurricular activity. Poorly ventilated class rooms may not be a good choice post pandemic as danger of transmission is high. This can be minimised by recommending well ventilated class rooms,

air circulation is an integral part of keeping this airborne transmission minimal. The need for well ventilated classroom was observed in 98% of participants pre and post talk. There was 2% of participants who did not understand the need of ventilation, even post talk.

Disinfection of the classrooms with appropriate disinfectants can't be over emphasized during the pandemic. 14% of special educators were knowledgeable of the right disinfectant prior to the talk. An increase by 74% was recorded post awareness talk.

Reporting of covid positive cases:

Responding to a covid positive child in a positive way and not stigmatizing them is a clear sign of positive health psychology ^[25]. The government has assigned nodal contact points like the government officials, District Health officials, Asha workers, Anganawadi workers and municipal corporators of the specified area who may be helpful ^[26]. 50% of the teachers were well informed of the right contact in case of an identified covid positive child in school. Post awareness talk a 26% increase was noted.

Cough etiquette during Covid 19:

Cough etiquettes are very essential to avoid transmission of this air -borne infection. Coughing and sneezing generates aerosol droplets in large numbers ^[27]. Aerosol can travel in great velocity and can also remain as airborne particles for long periods of time. The droplets travel a great velocity until they reach a contact surface ^[28]. Appropriate practice of coughing and sneezing may minimize the particle transmission. This awareness on cough and sneeze etiquette during covid 19 was as low as 31% amongst the educators prior to the talk. An increase of 64% was recorded post talk which was statistically highly significant.

Conclusion: A significant increase in the level of knowledge amongst special educators on COVID safe protocols in schools post pandemic was established through the health talks. The need of imparting right scientific information and meaningful safety protocols to be followed in special schools is strongly emphasized through the results of the study. The right health education during a pandemic situation is essential for special educators to create a safe environment for the vulnerable group of special children. Though the special educators were well informed on certain areas, our obtained data clearly

indicated the need of continued health education program to refresh and reinforce the appropriate evidence-based information. This may be possible by meaningful collaborative team work between health professionals and various educational boards.

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