Relationship between Covid-19 School Reopening Managerial Strategies of Hand Sanitization, Temperature Checking and Effective Administration of Post Basic Schools in Adamawa State

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ABSTRACT

This study examined the relationship between COVID-19 school reopening managerial strategies of hand sanitization, temperature checking and effective administration of Post Basic Schools in Adamawa State. Three research questions and three hypotheses guided the study. The population of the study is 6056. The sample size is 705 comprising of 130 principals and 575 teachers. This study adopted a correlational research design. Two self-structured instruments were used for data collection for the study. The two two self-structured questionnaires tagged "Covid-19 School Reopening Managerial Strategy Questionnaire (COVID-19 SRMSQ) and "Effective Administration of Post Basic Secondary Schools Questionnaire" (EAPBSQ) were used in collecting data for the study. An overall reliability coefficient of 0.86 and 0.83 were obtained for the both instruments using Cronbach Alpha Statistic. Descriptive statistics of mean and standard deviation were used to answer the research questions using the real limit of numbers. The Pearson Product Moment Correlation Coefficient was used to test the null hypotheses 1 & 2. While, Multiple Regression Analysis was in testing hypothesis 3. The results revealed that hand sanitization and temperature checking are significant predictors of effective administration of Post Basic Schools in Adamawa state, $F_{(5, 703)} = 33055.330$, $p < 0.05$. The results revealed that hand sanitization and temperature checking significantly predict effective administration of Post Basic Schools in Adamawa State. Based on the findings of the study, the following recommendations among others were made; hand antiseptic, hand disinfectant, alcohol-based hand sanitizers, hand rub, soap and water) should be enforced in schools for promotion of better hygiene culture in secondary school in the State for the purpose of removing common pathogens (disease-causing organisms) in order to remove all types of germs from hands. Also, school principals should ensure non-contact infrared thermometers, axillary (ampit) scanner and oral scanner are used to check febrile state of staff, students and visitors as this can further reduce the spread of COVID-19

Keywords: Covid-19 School Reopening Managerial Strategies, Hand Sanitization, Temperature Checking, and Effective Administration of Post Basic Schools.

INTRODUCTION

Human history has evolved through many unfolding events and these events sheds light on the problems (such as of Covid-19) been experienced all over the world today. The solution of the problems, disasters and pandemics encountered today is sought for in past experiences, especially via the various measures taken in curtailing such pandemics in time past. The process of finding a solution to the COVID-19 pandemic requires a broader perspective than just relying on past experience. As in past pandemic examples, although the COVID-19 pandemic has affected the social structures of the countries in general, the size of the

negative impact that has emerged on a global scale is greater than in the past (Zizek, 2020). One of the most important effects of the pandemic is the uncertainty associated with the future. When this uncertainty can be overcome in the face of the cessation of the production of many sectors, especially the closure of schools for longer period of time has become worrisome. Most school aged children are forced to stay at home, especially in developing countries like Nigeria and Adamawa State in particular.

School reopening managerial strategies after Covid-19 should comprise of pandemic prevention and control measures as identified by WHO (2020), which are: wearing of face masks, physical/social distancing, hand sanitization/ hygiene, checking temperature and vaccination. This study focused on hand sanitization and checking temperature. It is essential to clean and disinfect surfaces to reduce the risk of infection (UNICEF, 2021). Maintaining the health and safety of people and environments will be more important than ever before in the aftermath of the COVID-19 school closures. To make school environments safe, additional health and hygiene measures should be implemented, and school- based psycho-social and nutritional support should be extended to students to strengthen their overall health and well-being in the wake of the pandemic. Cleaning hands frequently is one of the easiest and effective ways to prevent the spread of COVID-19 transmission amongst students, teachers and other educational staff and help them stay healthy. As part of school reopening managerial strategy, school principals should ensure that students wash hands at key times with soap and water for at least 40 seconds or clean for at least 20 seconds with hand rub containing 60% to 80% alcohol (WHO, 2020).

UNICEF maintains that school administrators should develop cleaning and disinfecting protocols in students, including what needs to be cleaned and how often to maintain a healthy school environment. They should also place red stickers on frequently touched surfaces such as doorknobs, handrails, elevator buttons, faucets, sinks, desks, light switches, play structures and railings, clean more frequently and disinfect communal/shared spaces at regular intervals and provide training to cleaning staff on the proper use of cleaning and disinfecting products. According to De Almeida, Silva and Gontijo (2020), when both hand washing and hand sanitizer are not available, hands can be cleaned with uncontaminated ash and clean water, although the benefits and harms are uncertain for reducing the spread of viral or bacterial infections. According to UNICEF (2021), school principals must remember to keep the alcohol-based hand rub out of the reach of young children, and also, advise the teachers to keep an eye on their students while they are using an alcohol-based hand rub. Place visual cues such as hand-washing posters and stickers in bathrooms, cafeteria, communal spaces and highly visible areas. Hand washing is a well recommended school reopening managerial strategy for effective control of post basic secondary school, also known as hand hygiene, is the act of cleaning one's hands with soap or hand wash and water to remove viruses/bacteria/microorganisms, dirt, grease, or other harmful and unwanted substances stuck to the hands. Washing hands frequently is one of the easiest and effective ways to prevent the spread of COVID-19 transmission amongst students, teachers and other educational staff and help them stay healthy (UNICEF, 2021). This UNICEF posit can be achieved by singing the class favourite song or choreograph a simple routine to make proper hand cleaning easy and fun. However, frequent hand washing can lead to skin damage due to drying of the skin (Lippi, Sanchis-Gomar & Henry, 2020). In as much as hand hygiene is highly recognized as pandemic prevention and control measure, it is advisable that the health condition of each individual is ascertained in public area by use of temperature checking.

According to Lippi, et'al. (2020), the adoption of reliable measures for widespread (mass) screening of severe acute respiratory distress syndrome corona virus 2 (SARS-COV-2) infections is a cornerstone of all effective strategies aimed at limiting the viral spread within the community. Among the various possible options, body temperature screening by means of handheld, non-contact infrared thermometers and thermal imagine scanners is now widely used in a kaleidoscope of social and healthcare settings, with the purpose of detecting febrile individuals bearing potential SARS-CoV-2 infection (Zhang, Liu & Zhu, 2021). According

to Wei (2020); Kimball, *et al* (2020); One common strategy to prevent transmission has been temperature checks, which have increased in popularity as a non-invasive measure to rapidly screen individuals for elevated body temperature (i.e., fever).

Temperature screening has been used during other global outbreaks, including the severe acute respiratory syndrome (SARS) outbreak in 2003, the H1N1 influenza epidemic in 2009, and recent major Ebola virus disease outbreaks in Sub-Saharan Africa in 2014 and 2018 (Frieden & Damon, 2019). However, multiple studies have found low sensitivity or specificity of temperature monitoring during these prior epidemics even in cases where fever was a very common symptom among people with the disease in question (Liu, Chang, & Chang ,2014; Mouchtouri, Christoforidou & Heiden, 2016). Large infrared fever screening systems or no-contact temperature screening at school building entrances and wearable devices to continuously monitor individual temperature have all been widely employed in an attempt to prevent the spread of SARS-CoV-2, yet limited evidence exists concerning the sensitivity and specificity of these approaches for the current pandemic, especially in schools. Of note, the United States Food and Drug Administration (FDA) (2020) released a statement in June 2020 noting that non-contact temperature assessment devices "are not effective if used as the only means of detecting a COVID-19 infection". The use of alternative means for temperature assessment, such as measuring oral or auxiliary temperature, is not recommended, as this would necessitate physical contact, thus potentially contributing to enhancing the risk of virus transmission, and requiring time consuming and expensive systematic disinfection (Netolicky, 2020). Teachers eep the windows open for clean and natural ventilation, if it is safe. If possible, school principals should consider keeping the classroom doors open (Netolicky, 2020).

The connection between cold or hot classrooms and learning is well documented through many research studies (Nassar, 2021). A 2014 study demonstrated that both excessively cold and hot temperatures directly affect students' learning ability (Netolicky, 2020). High school students scored an average of 76 percent when it was 61°F, and did worse when it was 81°F, scoring an average of 72 percent (Mouchtouri & Heiden, 2016). When it was 72°F, what most people would consider a comfortable temperature, students' average scores went up to 90 percent. Mouchtouri and Heiden noted that when the body is subjected to thermal discomfort, a person's brain will be distracted by signals from the body. When you're in an environment that's hot or cold, maintaining homeostasis becomes your mind and body's priority, making it harder to concentrate on schoolwork (Martha & Levander, 2014). This the researchers perceived could affect the administration of public secondary schools.

Effective administration is the application of rules, procedures, policies predetermined to produce a successful intended educational objectives and goals through uninterrupted teaching and learning. According to (Manilla, 2013) effective administration is the coordination of human and material resources towards the attainment of some predetermined objectives. It is concerned with working with people and materials to accomplish the purpose of an enterprise. Principals' dynamic skill in ensuring effective use of time is very imperative for the attainment of school goals. Administration encompasses a number of processes such as: planning, organizing, directing, coordinating, controlling. Secondary school teachers in some States in Nigeria seems to spend more of their time in the staff room discussing with staff and visitors, and devote less time delivering classroom instructions which seems to result to inadequate coverage of scheme of work. Similarly, Akinfolarin (2017) asserted that school administrators spend more time on meetings and other school activities yet, finds it difficult to complete tasks at the appropriate time. School leaders must be competent in ensuring regular supervision and time management for school effectiveness.

Furthermore, the challenge on school administrators especially the principals and teachers to be technologically sound in terms of providing leadership in the integration of technology in administrative, teaching and learning processes of in their respective schools led to abrupt interruption of school calender during Covid-19 school closures (Pius-Uwhubetiyi, 2020). Pius-Uwhubetiyi (2020) opined that school

administrators are faced with problems learning the new technologies, the problem of too much too soon, the expense of technology, inadequate training, technological issues, the need to adapt content for blended learning, decreased motivation, lack of access to technology, poor power supply, and weakened relationships between students and teachers, etc. Conclusively, educational leadership and the student need to obey and follow. Furthermore, Espino-Diaz, Fernandez-Caminero, Hernandez-Lloret, Gonzalez-Gonzalez and Alvarez-Castillo (2020) averred that Covid-19 has exposed school administrators to a daunting phase of assimilation to new conditions, which is causing high levels of stress. Espino-Diaz, *et al*. (2020) further reported that teachers reported emotional fatigue, stress, anguish, or anxiety as a result of confinement and distance learning. In schools, teachers and principals are inundated with issues of excessive bureaucratic activities, vague orders, a lack of teleworking support, and a lack of technological resources as the key issues. Harris and Jones (2020) averred that the social distancing of staff and students means extra work and extra pressure on those staff who can return to work.

The outbreak of the Covid-19 pandemic seems to have presented a huge hurdle to the quality of educational administration in Post Basic Schools in Nigeria. The rapid spread of the virus heightened by the huge number of deaths led to the hurried closure of educational institutions including public secondary schools in Nigeria. The prolong academic layoff resulting from the inability of post basic schools' administrators in Nigeria to adapt pedagogical and school activities to the change forced by the pandemic as witnessed in most countries abroad. The lack of innovativeness displayed by public secondary schools in response to the Covid-19 pandemic presents a worrying sign for education development in Nigeria.

COVID-19 pandemic has not only affected children's lives but have also affected education and learning-teaching environments and methods. In Nigeria, as schools were closed, the education process was interrupted and the children have started education at home. WAEC/NECO was shifted as a result of closure of school. The pandemic has interrupted children's normal school-centered education. COVID19 pandemic has affected the education and teaching processes and brought along many problems. Although, most schools-initiated E-learning, it still was not sufficient enough to sustain the educational demands of the nation at large, especially in Adamawa State, good reason why the Adamawa State Government reopened schools gradually as soon as the first phase of the pandemic was over due to the infiltration of vaccines into in Africa, Nigeria precisely.

The researcher further observed that Post Basic schools in Adamawa State over the past few years have been suffering due to inadequate facilities for effective teaching and learning especially in this era of COVID-19 transmission. However, one possible way of improving the effectiveness of Post Basic Schools lies in the application of COVID 19 school reopening managerial strategies on effective administration of Post Basic Schools in Adamawa State. The problem of this study is therefore put in a question form: what is the relationship between COVID-19 school reopening managerial strategies of; hand sanitization, checking temperature and effective administration of Post Basic Schools in Adamawa State?

Purpose of the study

This study examined the **relationship between COVID-19 school reopening managerial strategies of hand sanitization, temperature checking and effective administration of Post Basic Schools in Adamawa State**. The specific objectives were to explore;

1. The relationship between hand sanitization and effective administration of Post Basic Schools in Adamawa State.
2. The relationship between temperature checking and effective administration of Post Basic Schools in Adamawa State.

3. The relationship between hand sanitization, temperature checker and effective administration of Post Basic Schools in Adamawa State.

Research Question

The following research questions guided the study.

1. What is the relationship between hand sanitization and effective administration of Post Basic Schools in Adamawa State?
2. What is the relationship between temperature checking and effective administration of Post Basic Schools in Adamawa State?
3. The level the relationship between hand sanitization, temperature checker and effective administration of Post Basic Schools in Adamawa State?

Statement of Hypotheses

The following null hypotheses formulated guided the researcher and tested at 0.05 level of significance:

Ho_1: There is no significant relationship between hand sanitization and effective administration of Post Basic Schools in Adamawa State.

Ho_2 There is no significant relationship between temperature checking and effective administration of Post Basic Schools in Adamawa State.

Ho_3: There is no significant relationship between hand sanitization, temperature checking and effective administration of post Basic Schools in Adamawa State.

METHODOLOGY

This study adopted a correlational research design. The Study Area is Adamawa State, which is located in North-Eastern Nigeria, with its capital in Yola. The population of the study comprised 322 principals and 5734 classroom teachers in Post Basic Schools in Adamawa State, giving a total population of 6056 (Adamawa State Post Primary Schools Management Board, 2022). The sample size is 705 comprising of 130 principals and 575 teachers. This represents 10% and 40% of the population of teachers and principals respectively. The rationale for selecting these percentages of the population in line with the position of Nwana (1981), who stated that if the population of a study is in few hundred a 40% or more sample will do: if many hundred, a 20% sample will do; if a few thousands, 10% sample will do and if several thousand a 5% sample will do. Two self-structured instruments were used for data collection for the study. Multi-stage sampling technique was adopted for the study. Two self-structured instruments were used for data collection for the study. The two two self-structured questionnaires tagged “Covid-19 School Reopening Managerial Strategy Questionnaire (COVID-19 SRMSQ) and “Effective Administration of Post Basic Secondary Schools Questionnaire” (EAPBSQ) were used in collecting data for the study. To certify content and face-related validity, the instruments (Covid-19 School Reopening Managerial Strategy Questionnaire (COVID-19 SRMSQ) and “Effective Administration of Post Basic Secondary Schools Questionnaire” (EAPBSQ) were presented to four experts from Educational Management in the Department of Physical Sciences Education, Faculty of Education, Modibbo Adama University, Yola. Cronbach Alpha Statistic was used to ascertain the internal consistency of the items of the instruments. An overall reliability coefficient of 0.86 and 0.83 were obtained. Direct delivery approach was used in eliciting information from the selected

respondents. Descriptive statistics of mean and standard deviation were used to answer the research questions using the real limit of numbers. Therefore, any item that yields a mean of 3.0 and above will be regarded as high level while all others with mean below 3.0 will be regarded as low level respectively. Pearson Product Moment Correlation Coefficient was used to test the null hypotheses 1 & 2. While, Multiple Regression Analysis was in testing hypothesis 3.

RESULTS

Two research questions were raised and answer using descriptive statistics of mean and standard deviation. Two hypotheses were also formulated and tested at 0.05 level of significance using PPMC and ANOVA of Multiple regression.

Research Question One

What is the relationship between hand sanitation and effective administration of Post Basic Schools in Adamawa State?

Table 1: Mean and Standard Deviation of the relationship between Hand Sanitization and Effective Administration of Post Basic Schools in Adamawa State

S/N	Items n=705	Mean	S. D	Remark
1	Use of hand sanitizer that is at least 60% (v/v) alcohol in water enhancesadministration	4.23	0.82	HL
2	Placing visual cues such as hand-washing posters in bathrooms facilitate administration	4.46	0.74	HL
3	Placing visual cues such as hand-washing stickers in cafeteria impedes school administration	4.35	0.75	HL
4	Use of moisturizing lotion to keep the hands from drying out impact positively on effective school administration	4.34	0.76	HL
5	Use of alcohol-based hand rub in schools enhances administration	4.39	0.69	HL
	Average Mean	**4.36**	**0.75**	**HL**

The average and standard deviation of the relationship between hand sanitation and effective administration of Post Basic Schools in Adamawa State are shown in Table 1. In Adamawa State's Post Basic Schools, a high level of hand sanitation is indicated by an average mean of 4.36.

Research Question Two

What is the relationship between temperature checking and effective administration of Post Basic Schools in Adamawa State?

Table 2: Mean and Standard Deviation of the relationship between Temperature Checking and Effective Administration of Post Basic Schools in Adamawa State

S/N	**Items** n=705	**Mean**	**S. D**	**Remark**
1	Use of handheld thermometers to check febrile state of staff facilitates effective school administration	3.86	0.87	HL
2	Use of non-contact infrared thermometers to check febrile state of students facilitates effective school administration	4.57	0.65	VHL
3	Use of thermal imagine scanners to check the febrile state of visitors in schools hinders effective administration	4.40	0.67	HL
4	Use of oral scanner to check the febrile state of students hinders effective administration	4.45	0.72	HL
5	Use of axillary (ampit) scanner to check the febrile state of staff facilitates effective administration	4.52	0.66	VHL
	Average Mean	**4.36**	**0.71**	**HL**

Result of analysis in Table 2 shows the mean and standard deviation of the relationship between temperature checking and effective administration of Post Basic Schools in Adamawa State. An average mean of 4.36 shows high level of temperature checking in Post Basic Schools of Adamawa State.

Research Question Three

What is the relationship between hand sanitization, temperature checking and effective administration of Post Basic Schools in Adamawa State?

Table 3: Mean and Standard Deviation of hand sanitization, temperature checker and effective administration of Post Basic Schools in Adamawa State

S/N	**Items** n=705	**Mean**	**S.D**	**Remark**
1	Use of Non-contact dual infrared temperature sensing to monitor teachers while discharging their duties improve administration	4.23	0.82	HL
2	Use of Temperature based Hand Sanitizer Dispenser Integrated in the school improve administration	4.46	0.74	HL
3	Use of paper tower improve school administration	4.36	0.75	HL
4	Providing immediate replacements to damaged digital thermometers improve administration	4.34	0.76	HL
5	Evaluating the use of non-antimicrobial soap in the school improve administration	4.39	0.68	HL
6	Making budget estimates for warm running water improve administration	3.86	0.87	HL
7	Showing concern on institution performance improve administration	4.57	0.65	VHL

8	Making himself/ herself available for consultation with staff improve administration	4.40	0.67	HL
9	Ensuring that staff use surgical hand antisepsis improve administration	4.45	0.72	HL
10	Use of plastic cuticle stick by staff after discharging their duties improve administration	4.52	0.66	VHL
	Average Mean	**4.36**	**0.73**	**HL**

The mean and standard deviation of the relationship between hand sanitization, temperature checking and effective administration of Post Basic Schools in Adamawa State are shown in Table 3. A high level of effective administration of Post Basic Schools in Adamawa State is indicated by an average mean of 4.36.

Hypotheses Testing

H_{01}: There is no significant relationship between hand sanitization and effective administration of Post Basic Schools in Adamawa State.

Table 4: Summary of PPMC of Relationship between Hand Sanitization and Effective Administration of Post Basic Schools in Adamawa State

Variable	Mean	S. D	R – value	P- value	Remark
hand Sanitization	4.36	.75	0.840	0.000	**H_{01} reject**
Effective administration	4.36	.73			

The summary of the results from the PPMC analysis performed to investigate the relationship between hand sanitization and effective administration of Post Basic Schools in Adamawa State are presented in Table 4. According to the result, hand sanitization and the effective administration of post-basic schools in Adamawa State are strongly, positively and significantly correlated ($r = 0.840$, $p<0.05$).

H_{02}: There is no significant relationship between temperature checking and effective administration of Post Basic Schools in Adamawa State.

Table 5: Summary of PPMC of Relationship between Temperature Checking and Effective Administration of Post Basic Schools in Adamawa State

Variable	Mean	S.D	R–value	P–value	Remark
Temperature checking	4.36	.71	0.786	0.000	**H_{01} reject**
Effective administration	4.36	.73			

The results of the PPMC analysis used to investigate the relationship between temperature monitoring and the effective administration of post-basic schools in Adamawa State are summarized in Table 5. The outcome shows a significant strong and positive relationship (r-value = 0.786, $p<0.05$) between temperature checking and effective administration of Post Basic Schools in Adamawa State.

H_{03}: There is no significant relationship between hand sanitation, temperature checking and effective administration of Post Basic Schools in Adamawa State.

Table 6a: Summary of Multiple Regression of Relationship between Hand Sanitation, Temperature Checking and Effective Administration of Post Basic Schools in Adamawa State

Model		Sum-of Squares	df	Mean Square	F	Sig.
1	Regression	89.386	1	17.877	33055.330	.000 b
	Residual	.377	703	.001		
	Total	89.764	704			

1. Dependent Variable: Effective administration
2. Predictors: (Constant), Hand sanitization, Temperature Checking

Results of Analysis in Table 6a revealed that hand sanitation and temperature checking are significant predictors of effective administration of Post Basic Schools in Adamawa State, $F_{(5, 703)} = 33055.330$, $p < 0.05$. Since the p–value (0.000) is less than 0.05 alpha level, we can conclude that the null hypothesis should be rejected. This means that hand sanitazation and temperature checking significantly predict effective administration of Post Basic Schools in Adamawa State.

Table 6b: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.998 a	.996	.933	.02326

1. Predictors: (Constant), Hand sanitization, Temperature Checking

The result in Table 6b shows a model summary which shows how the independent variable explains the variance in the dependent variable. The result shows that hand sanitation and temperature checking explained 93.3% of the variance in effective administration of Post Basic Schools in Adamawa State.

Table 6c: Coefficients of Beta

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.017	.012		1.415	.157
	Hand sanitization	.498	.002	65.1	221.061	.000
	Temperature Checking	.499	.002	57.2	199.753	.000

1. Dependent Variable: Effective administration

The analysis in Table 6c shows the coefficients of multiple regression analysis. The regression analysis presented reveals how each variable included in the model contributed in predicting effective administration of Post Basic Schools in Adamawa State. Hand sanitization has a beta value of 0.651 that is Hand sanitization explains 65.1 % of the variance in effective administration of Post Basic Schools in Adamawa State, at a p-value of 0.000. Furthermore, Temperature Checking has a beta coefficient of 57.2 at p – valueof 0.00 and lastly, vaccination has a beta coefficient of -0.003 at p = 0.263. It can be concluded that Hand sanitization make the strongest unique contribution to explaining the effective administration of Post Basic Schools in Adamawa State, when the variance explained by all other variables in the model are controlledfor since it has the largest beta coefficient of .651.

SUMMARY OF FINDINGS

The following are the findings of the study

1. Hand sanitization and the effective administration of post-basic schools in Adamawa state are strongly, positively and significantly correlated ($r = 0.840$, $p < 0.05$).
2. The outcome shows a significant strong and positive relationship (r – value = 0.786, p 0.05) between temperature checking and effective administration of Post Basic Schools in Adamawa State.
3. The results revealed that hand sanitization and temperature checking are significant predictors of effective administration of Post Basic Schools in Adamawa state, $F_{(5, 703)} = 33055.330$, $p < 0.05$. Since the p – value (0.000) is less than 0.05 alpha level, we can conclude that the null hypothesis should be rejected. This means that hand sanitization and temperature checking significantly predict effective administration of Post Basic Schools in Adamawa State.

DISCUSSION OF FINDINGS

The finding of this study revealed that there is a positive relationship between hand sanitization and effective administration of Post Basic Schools in Adamawa State. The major findings were that; placing visual cues such as hand-washing posters in bathrooms facilitate administration, use of alcohol-based hand rub in schools enhances administration and placing visual cues such as hand-washing stickers in cafeteria enhances school administration. Similarly, a test of related hypothesis revealed that hand sanitization and the effective administration of Post-Basic Schools in Adamawa State are strongly, positively and significantly correlated ($r = 0.840$, $p < 0.05$). This finding corroborate with that of Kavrayıcı and Kesim (2021) whose findings revealed that school administrators ability to employ physical measures of; handrail and door handle cleaning, disinfectant, vending machines and surface cleaning, significantly influence the administration of schools positively. The authors further revealed that informative measures of; (applied training, posters and notices) and productive measures of (visor, mask, disinfectant, and medical waste bin) have positive significant influence on the administration of schools. The finding further corroborate with that of Uzokife and Ezinwa (2021), whose findings revealed that good sanitation practices like regular hand washing among students enhance the effective administration of secondary schools during COVID-19 pandemic. This finding further corroborate with that of Franck, Robinson, Mambo and Pius (2021) whose findings reported that washing of hands before wearing and after removing the face mask enhance the administration of secondary schools.

In addition, the finding of this study revealed that there is a positive relationship between temperature checking and effective administration of Post Basic Schools in Adamawa State. The major findings were that; use of non-contact infrared thermometers to check febrile state of students facilitates effective school administration, use of axillary (ampit) scanner to check the febrile state of staff facilitates effective administration and use of oral scanner to check the febrile state of students ensures effective administration

of Post Basic Schools. Similarly, a test of related hypothesis revealed that there is a significant strong and positive relationship (r – value = 0.786, p 0.05) between temperature checking and effective administration of Post Basic Schools in Adamawa State. This finding corroborate with that of Adebowale, etal. (2021), whose findings revealed the use of temperature checker in schools were significant positive predictors of good knowledge and satisfactory practices that guides school administrators and students on strict adherence to covid-19 school reopening managerial strategies in order to improve school administration. This finding further corroborate with that of Edeh, Nwafor, Obafemi, Sen and Sharma (2020), whose findings also show that many educators and students relied on technology (temperature checker) to ensure continued learning during the Corona-virus pandemic.

Finally, the finding of this study revealed that there is a positive relationship hand sanitization, temperature checker and effective administration of Post Basic Schools in Adamawa State. A similar test of hypothesis revealed that hand sanitization and temperature checking are significant predictors of effective administration of Post Basic Schools in Adamawa State, $F_{(5, 703)} = 33055.330$, $p < 0.05$. Since the p–value (0.000) is less than 0.05 alpha level, the researcher rejected the null hypothesis. This means that hand sanitation and temperature checking significantly predict effective administration of Post Basic Schools in Adamawa State. This finding corroborate with that of Franck, Robinson, Mambo and Pius (2021), whose findings revealed that washing of hands before wearing and after removing face mask positively influences the administration of schools; Uzokife and Ezinwa (2021), whose findings revealed that adherence to social distancing and washing of hands significantly enhanced school administration during Covid-19 pandemic; Edeh, etal. (2020), whose findings also show that many educators and students relied on technology (temperature checker) to ensure continued learning online during the Corona-virus pandemic and Binka etal. (2023), whose findings revealed that COVID-19 vaccine acceptance among students and staff positively influence school administration.

CONCLUSION

Based on the findings of this study, it was concluded that Covid-19 schools reopening managerial strategies of hand sanitization and temperature checking were related to effective administration of Post Basic Schools in Adamawa State. It can therefore envisaged that hand sanitation, temperature checking in times of global emergencies (such as COVID-19) have positive significant relationship with effective administration of Post Basic Schools in Adamawa State.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. Hand antiseptic, hand disinfectant, alcohol-based hand sanitizers, hand rub, soap and water) should be enforced in schools for promotion of better hygiene culture in secondary school in the state for the purpose of removing common pathogens (disease-causing organisms) in order to remove all types of germs from hands.
2. School principals should ensure non-contact infrared thermometers, axillary (ampit) scanner and oral scanner are used to check febrile state of staff, students and visitors as this can further reduce the spread of COVID-19.
3. Secondary school administrators and students should constantly adhere to; hand sanitization and temperature checking as these variables are significant predictors of effective administration of Post Basic Schools especially in times of future pandemics.

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