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KNOWLEDGE AND PRACTICE OF HEALTH PROTECTIVE MEASURES OF EARLY CHILDHOOD LEARNERS IN BENIN CITY, NIGERIA

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Abstract:
A healthy lifestyle is desired by everybody, and this involves health-promoting and health-protecting behaviours that are complementary. Health protective behaviours must be learned early in life and particularly in preparation to face pandemics. Children must learn them as part of the socialization process in school and at home to prevent the transmission of diseases. This study explored the knowledge and practices of health-protective behaviours by early childhood learners. The population for this study was learners in early childhood schools in Benin City, Nigeria. A sample of 200 early childhood learners whose parents consented was selected purposively from early childhood schools. An interview schedule that was validated with a reliability of .83 was used in collecting data by the researchers. The data collected was analysed using frequencies, percentages and Pearson product-moment correlation. More than 60% of the learners had knowledge of washing hands regularly, using of hand sanitizers, covering their mouth with elbow when coughing among others as health protective measures which are part of non-pharmaceutical initiatives. Furthermore, more than 50% of the learners practice protective measures. Overall, the level of knowledge and practice of the measures was encouraging. Schools should continue to teach learners non-pharmaceutical initiatives in preparation for any outbreak of pandemics; the practice of such initiatives should also be enforced.

Keywords: health protective behaviour, early childhood learners, knowledge, practices

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1. Introduction

A healthy lifestyle involves modifiable factors that include smoking, physical activity, alcohol intake, body weight, and diet quality, which is a prerequisite for keeping healthy. Generally, to keep healthy, one should avoid smoking, engage in regulated physical exercise, minimize alcohol intake, maintain reasonable body weight and eat healthy. Health-protecting and health-promoting behaviours are complementary components of a healthy lifestyle and they are expected to sustain or increase the individual's level of well-being, self-actualization, and personal fulfilment. Health promotion involves the improvement of health and having control over health. These are at the core in terms of aims and processes of health promotion. A generally accepted definition is that in the Ottawa Charter of the World Health Organization, which defines Health promotion as "*the process of enabling people to increase control over, and to improve, their health*" (WHO 1986).

Wesrt and Michie (2020) defined health-protective behaviour as one used by someone and seen as inhibiting contracting diseases and thus reducing threats to their health and safety and those of other people. This type of behaviour apart from protecting the health also minimize the risks of infection; some of such behaviours include hand washing, wearing a facemask, and disinfecting surfaces.

This behaviour is performed irrespective of the perceived or actual health status so as "*to protect, promote, or maintain one's health, whether or not such behaviour is objectively effective toward health*" (Harris & Gulen,1979). Pender et al. (2014) suggested that health-protecting behaviour should be viewed as an expression of a tendency to stabilize oneself with the intent of reducing the individual's probability of encountering illness. The behaviour encompasses multiple dimensions, which according to WHO (2007) may include aspects of environment, behaviour and lifestyle, genetic factors, and health care; Smith et al. (2006) expressed health-protecting behaviour in eight key factors: safety, social security, education, food security, income, ecological environment, sustainable resources, and social justice.

Health protective behaviour is very important as was seen during the COVID-19 outbreak in 2019. COVID-19 is transmitted from person to person mainly through close contact and larger respiratory droplets. Strong evidence supported the fact that individuals' behaviour is the key to slowing down the disease spread and reducing morbidity (Tooher et al., 2009; Zhong et al., 2017).

A behaviour regime germane in this wise is the use of non-pharmaceutical Interventions (NPIs) which are generally not based on taking medicines. Though adults were mainly affected by COVID-19, the direct health impacts of the severe acute respiratory coronavirus 2 itself have been relatively minimal for children globally, even with the deadly Delta variant (Ibrahim et al., 2021; McLaws, 2021; Rajmil et al., 2021 & Shen et al., 2020). There are however some indirect impacts. The direct impacts on children have been categorized by Goldfeld et al. (2022) into three (child level, family level and service level). Factors at the child-level include poor mental health, poor child

health and development and poor academic achievement. At the family level, the factors include poor parent mental health, reduced family income and job losses, increased household stress, abuse and neglect and poorer maternal and new-born health. Equally noticed at the service level were school closures, reduced access to health and increased use of technology for learning, connection and health care.

In a pandemic as noticed in the case of COVID-19, health preventative measures can be categorized into three types: preventive, avoidant, and management behaviours. Preventive behaviours here are mainly concerned with hygiene at the personal and environmental levels (increased frequency of hand washing, coughing etiquette, wearing a face mask (Bish & Michie, 2010; Stebbins et al. (2009) and effective cleaning of high contact surfaces and items (Centre for Disease Control and Prevention, 2019). The avoidance behaviours are mainly community-based with the aim of reducing person-to-person contact and consequently transmission. These involve isolation, quarantine and social distancing (Ferguson et al., 2020; Nussbaumer-Streit et al., 2020). It was the social distancing intervention that led to the stoppage of mass gatherings, closure of schools and universities and distancing of the general public as was observed during the COVID-19 pandemic. Finally, taking medication and seeking assistance from health professionals and use of helplines constitute the management component of health-preventative behaviours (Zickfeld et al., 2020).

Prevention is still an important way to avoid being infected in a period of epidemic such as with COVID-19. Studies by Taghrir et al. (2020), Souli and Dilucca (2020), and Xue (2021) showed many respondents washing hands as preventive measure against infections. Furthermore, wearing masks and not bothered about spreading the virus to others if they did contract COVID-19 was exhibited by respondents in the study by Bukata et al. (2022). Some studies (Souli and Dilucca (2020) reported good attitude towards frequent hand washing with soap and water, use of sanitizers, and wearing a mask outside the house as a preventive measure. Use of protective measures such as face masks when they were seen by a doctor, or when they left the cell during working hours or yard time is common among incarcerated people (Guiseppe et al., 2022).

High knowledge of health-protective behaviours has also been noticed among children (Asemota et al., 2022). Studies show positive effects on the control of the epidemics of SARS, Ebola, and H1N1 human influenza flu through knowledge, attitudes, precautionary behaviours, and active social participation (Bell 2004; Dorfan & Woody 2011; Vartti et al. 2009; Yang & Chu 2018). According to McEachan et al. (2016), knowledge is a prerequisite for forming positive attitudes and promoting positive behaviours; a good knowledge is, therefore, a prerequisite for attitude development. As noted by Borzekowski et al. (2021), children are a vulnerable audience, particularly with respect to risk communication. To that extent, it should be realized that more knowledge is not always associated with less concern. Therefore, attitude enhancement must be given great impetus.

With the onslaught of COVID-19, it became imperative that people generally should know the Non-Pharmaceutical Initiatives (NPIs) that can be used to contain the spread of the disease. People were equally required to practice some of these non-pharmaceutical interventions. The belief in society is that children through socialization should imbibe acceptable culture and mores of society. Good health is one such thing that is desired and this contributes towards longevity and has some economic benefits because of savings from non-hospitalization, reduction of frequent visits to hospitals and fewer absences from work among others. Therefore, if children have the knowledge and practice health-protective behaviours then society would benefit greatly. It is as a result of this expectation that this study examines the issues of knowledge and practice of health-protective behaviours of early childhood learners in Benin City, Nigeria.

Specifically, the questions posed are:

1) What is the knowledge of health-protective behaviours by early childhood learners in Benin City, Nigeria?
2) Which of the health-protective behaviours are utilized by the early childhood learners in Benin City?
3) What health protective behaviour facilities do the schools in Benin City Nigeria provide for early childhood learners?
4) What is the relationship between knowledge and practice of preventive measures by early childhood learners in Benin City, Nigeria?

Internalization of health-protective behaviours such as increased hygiene or physical distancing can slow the spread of infections and would be helpful in getting the infection curve to flatten. As indicated by Ferguson et al. (2020) and Li et al. (2020), when people adopt widespread public health behaviour change, this could have strong influences on controlling future pandemics and limiting harmful consequences on physical health and healthcare systems.

2. Method of Study

This study was informed by the positivist philosophical paradigm which emphasizes the scientific method and statistical analysis. The positivists believe that there is a single reality that can be measured and known (Corry et al., 2019). Thus, a quantitative method approach was employed in this research, utilizing a cross-sectional survey. The population was composed of early childhood learners in schools in Benin City. The learners utilized were those that the parents consented that they could be used for the study. These learners were drawn from ten schools that had been purposively sampled because of the ease of accessibility and willingness of the head teachers to allow the use of the learners for the study. On the whole, a total of two hundred learners were captured during the interview process.

The instrument used for data collection was a survey interview schedule made up of two sections. Section A requested for the gender of the learner, age and type of school being attended. Section B had three questions focusing on what learners would do to

avoid being infected with a disease, especially COVID-19, the type of health prevention measures they practise and protective behaviour exposure available in school. This survey interview schedule which was designed by the researchers was simple and easy to understand by early childhood learners. It only required the learners to agree or disagree with some behaviours to exhibit to mitigate being infected with some diseases such as COVID-19, some behaviours they exhibit to avoid contracting some diseases and some facilities/behaviours the school provides/encourages. Two early childhood education teachers and a health educator examined the interview schedule to establish that it covered what it was expected to cover. Based on the comments, the interview schedule was deemed as possessing content validity evidence. Because the response mode was dichotomous, the guide was administered to a group of twenty learners for the purpose of determining the reliability of the responses. The emergent reliability was .83 using Kuder-Richardson-formula 20 (KR-20) thus indicating a high level of internal consistency.

The interview schedule was read to the sampled learners by the researchers and two trained data collectors, and their responses were documented in the interview schedule. The data collection was done over a period of two weeks and collected information was analysed using frequencies, percentages and correlation. Thereafter, an index of knowledge of health-protective behaviour was computed by summing the correct knowledge responses. The level of knowledge based on a scale of 100 was classified as poor (0-< 50), moderate (50-< 70) and high (70-100). The same was done for level of practice. A correlation between knowledge and practice of health-protective behaviour was computed using Pearson product-moment correlation coefficient.

2.1 Ethical Considerations

Consent of schools to allow the learners to participate was sought after explaining to them the research aims and guarantee of anonymity and confidentiality. Parents of the learners were approached and their consent was sought on the bases of which the learners were selected. Teachers were parents-in-locus where the actual parents or guardians could not be reached. The responses provided were anonymous and the researchers did not know the identity of all the respondents.

3. Results

Table 1 presents the demographic characteristics of the respondents. There were more female learners (54.5%) than male learners (45.5%), majority of the learners were aged above 5 years, but the learners were within age-range 4 to less than 6 years and many of the learners were in private schools.

Table 1: Frequency of demographic characteristics

Variable	Frequency	%
Gender		
Male	91	45.5
Female	109	54.5
Total	200	100
Age		
4-5 years	46	23
Above 5 years	154	77
Total	200	100
Type of School		
Public	73	36.5
Private	127	63.5
Total	200	100

Among the health protective behaviours, the one most rated by the learners was 'Washing hands regularly' (87%), followed by 'Use a face mask' (67%) and 'Use tissue paper when sneezing, coughing and dispose off immediately' (67%) while the least was 'Cover mouth with elbow when you cough' (62%).

Table 2: Frequencies of knowledge of health preventive behaviours

Health preventive measures	Yes		No	
	Frequency	%	Frequency	%
Washing hands regularly	174	87	26	13
Use of hand sanitizers	133	66.5	67	33.5
Cover mouth with elbow when you cough	124	62	76	38
Use a face mask	134	67	66	33
Avoid overcrowded places	126	63	74	37
Use tissue paper when sneezing, coughing and dispose immediately	134	67	66	33

In Table 3 the health-protective behaviour most practiced was 'Wash hands regularly' (68%), followed by 'Cover mouth with elbow when you cough' (57%). As would be expected only 48% of the learners 'like crowded places'; this is an indication that 52% did not like crowded places.

Table 3: Frequencies of practice of health preventive behaviours

Health preventive measures	Yes		No	
	Frequency	%	Frequency	%
Washing hands regularly	136	68	64	13
Use of hand sanitizers	106	53	98	47
Cover mouth with elbow when you cough	114	57	86	43
Use a face mask	109	54.5	91	45.5
Like overcrowded places	96	48	104	52

The school is the place where learners spend most of the day outside the home. Within it, socialization is expected to take place. Having to imbibe some health protective behaviours is expected to be taught in schools. Schools should be prepared to promote the acquisition of some health-protective behaviours. In Table 4, issues like 'Have wash hand basins' (80%), 'Teach how to wash hands' (78.5%) and 'Have hand sanitizers' (60%) were indicated as what the schools have or do.

Table 4: Health preventive behaviours provided by the school

School preparedness	Yes		No	
	Frequency	%	Frequency	%
Have wash hand basins	160	80	40	20
Teach how to wash hands	157	78.5	43	21.5
Have hand sanitizers	120	60	80	40

In Table 5, while knowledge was moderate for a majority of the learners (58.5%), one can see the knowledge level as good as 93% of the learners had a knowledge level of moderate and high rating. Among the learners, 47% had poor practices and 53% had practices that were good based on moderate and high practices. To assess the linear relationship between knowledge and practice a Pearson correlation was computed. There was a positive correlation between the two variables, r (198) =.357, p= .000. Thus, the correlation was significant at 0.05.

Table 5: Frequency of evaluation of knowledge and practice of health preventive behaviour

Health protective behaviour	Poor	Moderate	High
Knowledge	14(7.0)	117(58.5)	69(34.5)
Practice	94(47)	42(21)	64(32)

4. Discussion

There is an adage that states that 'knowledge is power'. The weakness of any human notwithstanding, the possession of some modicum of knowledge can be helpful in managing otherwise bad situations in life particularly as it concerns health, Therefore, exploration of knowledge of issues related to health is germane to ensure that the quality of life enjoyed is optimal. For children, knowledge acquired in life is expected to be utilized as they journey through life. The knowledge of health preventive measures possessed by the learners studied was good as more than 62 percent had knowledge of each of the protective measures that were considered in this study. This is not unexpected as the study was conducted soon after schools were opened after the lockdown following the outbreak of COVID-19. The number having knowledge of the protective health measures in this study is lower that found in the study by Guiseppe et al. (2022) but larger than that which was obtained in a study of children in Nigeria, where almost half of children who responded had the highest possible score regarding preventative measures (Asemota et al., 2022). An expectation is that those who possess knowledge will

endeavour to put it into practice. More than 50% of the respondents in this study practice each of the health-protective behaviours investigated.

The percentage of learners was below those obtained in the study by Taghrir et al. (2020) where 93.7% of the students in their study washed their hands frequently as against the majority of the students in the study by Xue (2021) showing high compliance with the suggested practices. The most utilized health preventive measure was regular handwashing which is in agreement with the outcome of the study by Taghrir et al. (2020) and Souli and Dilucca (2020).

The fact that at least 60% of the learners indicated that schools have wash hand basins, teach how to wash hands and have hand sanitizers shows the preparedness of the schools to imbibe health-protective behaviours among the learners. In this way, they are preparing the learners to manage future occurrence of any pandemic. This is because when protective behaviours are learned in school and become part of life it can slow down the spread of disease and reduce morbidity (Tooher et al., 2009; Zhong et al., 2017).

As 93% of the learners indicated an acceptable knowledge and 51% an acceptable practice level, this is indicative of knowledge driving practice. However, the disparity between the quality of knowledge and practice shows that knowledge has not actually driven practice to a very great extent in this case. This is even though McEachan et al. (2016) have acknowledged that knowledge is a prerequisite for forming positive attitudes and thus promoting positive behaviours. Nonetheless, the results of the study which showed a significant relationship between knowledge and practice is not unexpected.

5. Conclusion and Recommendations

Based on the results of this study certain conclusions can be drawn among which is the fact that a majority of the learners have adequate knowledge and practice the health protective behaviours expected at this level of development of children in early childhood education. Furthermore, schools are not resting on their oars as they make efforts to provide exposure for children in an attempt to ensure they imbibe and practice health preventive behaviours through provision of opportunities to practice as well as teach. Lastly, knowledge and practice of health-protective behaviours are related.

From the conclusions emergent from this study, it is imperative for schools to continue to teach learners those non-pharmaceutical initiatives in preparation for any outbreak of pandemics; the practice of such initiatives should be enforced. Schools should equally be prepared by putting in place all those things required in buying into the NPIs becoming part of the cognitive and affective repertoire of the children for effective practice.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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