DOI 10.14526/2070-4798-2019-14-1-102-112

Планы выхода из чрезвычайных ситуаций и соблюдение правил безопасности во время уроков физической культуры в частных начальных школах Кении

Stella N. Wayong'o[1], Francis M. Mwangi* [1], Lucy-Joy M. Wachira[1], Elijah G. Rintaugu[2]

[1]Department of Physical Education, Exercise & Sports Science
Kenyatta University, Kenya
[2]Department of Recreation & Sports Management
Dean, School of Hospitality, Tourism & Leisure Studies, Kenyatta University, Kenya
ORCID: 0000-0003-1065-4238, stellawayongo@gmail.com
ORCID: 0000-0003-0147-9140, mwangi.francis@ku.ac.ke, frmwa@gmail.com**
ORCID: 0000-0003-2805-5997, wmlucyjoy@gamil.com
ORCID: 0000-0003-1241-5046, elijahgitonga2001@yahoo.com, rintaugu.elijah@ku.ac.ke

Аннотация: Программа качественного физического воспитания (ФВ) предоставляет наилучшие возможности для обеспечения физической активности (ФВ) всем детям и приобретения навыков и знаний, необходимых для формирования и поддержания физически активного образа жизни. Закон возлагает на учителей и школы юридическую обязанность заботиться о безопасности и благополучии учащихся, находящихся под их опекой. Учитель обязан создать безопасную и здоровую окружающую среду путем обеспечения планов действий в чрезвычайных ситуациях, надлежащего состояния оборудования и аппаратуры, а также отображения правил и положений. Цель этого исследования состояла в том, чтобы определить, существуют ли чрезвычайные планы и правила безопасности, связанные с уроками ФВ, и соблюдаются ли они в частных начальных школах в округе Найроби, Кения. ***Методы***. Был использован проект межсекторального аналитического исследования, в котором приняли участие представители 20 произвольно выбранных начальных частных школ в пяти общинах округа Найроби. Выборку составили 60 случайно выбранных учеников и 40 случайно выбранных учителей физического воспитания. Анкетирование было использовано для сбора данных от учителей физического воспитания, интервью – для сбора информации от учащихся, контрольные наблюдения – для получения информации из первых рук. Для кодирования и анализа данных использовался статистический пакет для социальных наук (SPSS) версии 23. Для проверки связи между различными переменными на значимом уровне 0,05 использовались Хи-Квадрат и Ро Спирмена. ***Результаты***. Результаты исследования свидетельствуют о том, что более высокая доля учителей физического воспитания сообщила о наличии чрезвычайных программ (34 [85%]) и страхования (31 [77,5%]) в их школах. Анализ Хи-Квадрат показал, что существует значительная связь между типами школ (в пользу школ с высокой стоимостью) и наличием чрезвычайных программ ($X2=7,059$; $p = .029$), страхового покрытия ($X2 =11.613$; $p = .003$), переодевание чрезвычайных ситуаций на уроке физического воспитания ($X2= 13.535$; $P < 0,001$) и внимания к учащимся во время занятия ($X2 = 53.860$; $P < 0,001$). ***Заключение.*** Тип частной начальной школы в округе Найроби определил соблюдение правил безопасности как учениками, так и учителями физкультуры. Не все частные начальные школы в округе Найроби имели надлежащие программы информирования о чрезвычайных ситуациях на уроках физического воспитания. В то время как большинство дорогостоящих частных начальных школ заинтересованы в реализации планов действий в чрезвычайных ситуациях и правил безопасности для уроков физического воспитания, большинство недорогих и средних частных начальных школ этого не делают и могут подвергать учащихся высоким рискам. Министерству образования следует обеспечить более строгое соблюдение требований безопасности в школах по всему социально-экономическому спектру.

Ключевые слова: аварийные планы, правила техники безопасности, уроки физической культуры.

Для цитирования: Stella N. Wayong'o, Francis M. Mwangi*, Lucy-Joy M. Wachira, Elijah G. Rintaugu. Планы выхода из чрезвычайных ситуаций и соблюдение правил безопасности во время уроков физической культуры в частных начальных школах Кении. Педагогико-психологические и медико-биологические проблемы физической культуры и спорта. 2019; 14(1): 102-112. DOI 10.14526/2070-4798-2019-14-1-102-112

Introduction

A quality physical education program offers the best opportunities to provide physical activity (PA) to all children and to teach them the skills and knowledge needed to establish and sustain a physically active lifestyle (Barb, 2005). Physical Education (PE) is a great way to introduce children to PA such as sports and games they would otherwise never participate in. PE provides the opportunity for them to use equipment and access various facilities at school (Foresters Company, 2013). Children spend more time at school where they need to feel secure in order to learn properly (National Crime Prevention Council, 2015).

According to Kenya-Advisor (2014), there are three types of schools in Kenya: public, private and Harambee schools. Tooley and Dixon (2005) explain that private schools are both privately managed and privately funded. They note that Private education is not only concerned with serving the elite or middle classes, but even the poor. According to Globe Media (2014), private schools are superior to public schools due to additional funding from school fees though the cost varies from school to school. They noted that private schools offer a good range of facilities and extracurricular activities for students which have the inherent danger. According to Wanyama (2011), and other anecdotal sources, public primary schools do not asses PE as a subject hence they tend not to take it seriously unlike in most private schools where it is taken seriously.

Nationwide Children's (2009) state that PE in schools is one of the main tools used to increase Physical Activity (PA) and to prevent childhood obesity but it may also increase the risk of injury. Ministry of Education (2008) demands that all schools in Kenya adhere to the safety guidelines found in the safety manual. Kamenju, Kiganjo and Mwathi (2006) explain that learners in schools should be warned of potential dangers and risks and be advised of rules and reasons for having rules during PE lessons. They recommend that safety rules should be posted near areas of increased risks like changing rooms as well as in shower rooms. Macharia (2012) found out that safety rules and regulations in the playgrounds provided the preschoolers and teachers with the opportunity to participate in enhancing playground safety. Wanjiru (2011) discovered that most preschools in Thika west district had no safety rules and regulations; this was implied by the result of 30(62.5%), 45(93.8%) teachers who indicated that there were no safety rules in the schools. Wanjiru (2011) discovered that most preschools in Thika West had not put in place adequate measures to ensure emergency preparedness when teaching. The teachers cited that there were no emergency awareness programs in their preschools. These finding corresponded with Women Educational Researchers of Kenya [WERK] (2011) report where only four out of ten schools had the recommended safety manual. It is apparent that large proportion schools in Kenya do not have enough strategies in place to reduce the risk of emergencies, especially the risk associated to the needs of increasing participation in physical activity. Hence there is need of continuously evaluating the implementation of safety precautions. The purpose of the current study was to establish if emergency plan and safety regulations related to PE lessons were in place and if they were being practiced among private schools.

Methods

Study design, population and sampling

The study adopted the cross-sectional analytical research design to assess the implementation of the recommended emergency plans and safety rules and regulations practices observed during physical education lessons. The study involved a representative sample of PE teachers and pupils of classes/ grades five, six and seven in high, middle and low cost private primary schools in Nairobi City

County, Kenya. Nairobi City County was purposively selected for the study as it has a large number of private schools which have students and teachers from diverse areas and economic status. The sample size for this study was obtained using proportional stratified random sampling procedure. Stratified random sampling was used to select the three strata: high, medium and low cost private primary schools from five purposely chosen sub counties (56%). Proportions were used to get sample sizes for schools. Classes, pupils and PE teachers were randomly picked from these schools. Out of the 40 PE teachers sampled, 50% were male and 50% were female. Out of 60 sampled pupils 51.7% were male and 48.3% were female.

Research approval and permission to conduct the study was obtained from the Kenyatta University and County Education Officer while ethical clearance was given by the Kenyatta University Ethical review Committee. A research permit was also obtained from National Council for Science and Technology. Informed consent from physical education teachers, parents/ guardian and assent of pupils were obtained.

Variables, definitions and statistical analyses

The study's dependent variable was safety precautions. The Independent variables were; presence of emergency programs in schools, insurance cover in schools, Conversance of the PE teacher with the procedures of the school insurance cover, access to communication device, Presence of fire assembly points, availability of safety rules and regulations during PE lessons, Presence or absence of the teacher during the PE lesson, Wearing of PE kits by pupils, attention to pupils during the PE lesson, presence of safety gadgets during the PE lesson, execution of correct warm up during the PE lesson and presence of cool down during the PE lesson.

Self-administered questionnaires were used to collect data from PE teachers. Interview guides were used to collect information from pupils while observation checklists were used to obtain first-hand information. The statistical Package for Social Sciences (SPSS) version 23 was used to code and analyze the data. Chi square and Spearman's Rho were used to test the relationship between different variables at a significant level of 0.05.

Results and Interpretation

Socio demographic factors

This study involved a representative sample of PE teachers and pupils of classes/ grades five, six and seven in high, middle and low cost private primary schools in Nairobi City County, Kenya. Out of the 40 PE teachers sampled, 50% were male and 50% were female. Out of 60 sampled pupils 51.7% were male and 48.3% were female. This comprised 100% of the sampled respondents.

Presence of an Emergency Program

The study findings as presented in Table 1, indicate that a higher proportion of 34(85%) of PE teachers reported to have had emergency programs in their schools while 6(15%) of PE teachers reported that they did not have emergency programs in their schools. Chi Square value of X^2=7.059; p = .029 showed that there was significant association between the presence of emergency programs and the types of school (in favor of high cost schools).

Access to Communication Device in time in case of an emergency

Out of the 40 respondents (PE teachers) sampled, 38(95%) of them reported that they were able to access communication devices in case of an emergency, while 2(5%) reported that they were not able to access to communication devices in case of an emergency. Chi Square value of X^2= 8.453; p = .076 revealed that there was no significant association between access to communication device by the PE teacher and the types of school (in favor of high cost schools).

Insurance Covers in Private Primary Schools

Results of the study as reported by the PE teachers indicate that most schools had insurance covers 31(77.5%). High cost schools 8(100%) and middle cost schools 12(100%) all had insurance covers while low cost schools with insurance covers registered a percentage of 11(55%). Chi Square value of X^2 =11.613; p = .003 showed that there was significant association between the availability of insurance covers for pupils and the types of school (in favor of

high cost schools).

Conversance with the Procedures of the School Insurance Covers

It is evident from the study findings as presented in Table 1, that PE teachers with an average level of being conversant with insurance cover procedures registered the highest proportion of 12(30%). PE teachers with an excellent level of conversant with insurance cover procedures registered the lowest proportion of 1(2.5%). Chi Square value of X^2=24.409; p = .007 showed significant association between conversance of insurance cover and the types of school (in favor of high cost schools).

Table 1: Emergency Programs in Private Primary Schools in Nairobi City County (PE teachers' response)

Variable		Categories of schools			Total	Chi square
		High cost 8(20)	Middle cost 12(30)	Low cost 20(50)	40(100)	*p*-value
		f (%)	*f* (%)	*f* (%)	*F* (%)	
Presence of an emergency program in the school	Yes	8(100.0)	12(100.0)	14(70.0)	34(85.0)	
	No	0(0.0)	0(0.0)	6(30.0)	6(15.0)	*p* = .029
Total		**8(100.0)**	**12(100.0)**	**20(100.0)**	**40(100.0)**	
School has Insurance cover	Yes	8(100.0)	11(100.0)	12(55.0)	31(77.5)	
	No	0(0.0)	0(0.0)	9(45.0)	9(22.5)	*p* = .003
Total		**8(100.0)**	**12(100.0)**	**20(100.0)**	**40(100.0)**	
Conversance of the PE teacher with the procedures of the school insurance cover	Below Average	2(25.0)	1(8.3)	4(20.0)	7(17.5)	
	Average	3(37.5)	4(33.3)	5(25.0)	12(30.0)	
	Good	3(37.5)	2(16.7)	2(10.0)	7(17.5)	
	Very good	0(0.0)	4(33.3)	0(0.0)	4(10.0)	*p* = .007
	Excellent	0(0.0)	1(8.3)	0(0.0)	1(2.5)	
	Not applicable	0(0.0)	0(0.0)	9(45.0)	9(22.5)	
Total		**8(100.0)**	**12(100.0)**	**20(100.0)**	**40(100.0)**	

Pupils' Knowledge of the Fire Assembly Point

Majority of pupils (52%) assembled at the fire assembly point during an emergency followed by 40% of pupils who were reported to have assembled in the open field during emergency. Chi Square value X^2 of = 29.159; p <.001 revealed that there was significant association between the pupils assembling at the designated fire assemble place and the type of school (in favor of high cost schools).

Availability of Safety Rules and Regulations

It is evident from the findings of the study that 33(85%) of the PE lessons conducted in private primary schools had safety rules displayed. Only 6(15%) did not have safety rules displayed**.** Computed Chi Square value of X^2 =7.464; p = .024 showed that there was significant association between the availability of safety regulations during PE lessons and the type of school, with high cost schools associated with most schools having displayed safety regulations and low cost associated with the least schools having safety regulations displayed.

Wearing of the PE Kit by Pupils during PE lessons

From the study findings, a higher proportion of pupils 33(55%) had PE kits during PE lessons while 27(45%) did not have PE kits during PE lessons. To find out if there was a relationship between the type of school and wearing of PE kits by pupils during

PE lessons, the Chi Square value of X^2= 13.535; p < .001 revealed that there was significant association between the types of school pupils attended and the wearing of PE kits during PE lessons (in favor of high cost schools) (see Table 2).

Presence and absence of the PE Teacher during PE lessons

Out of the 60 PE lessons observed as evident in Table 2, all (100%) were reported to be under the supervision of a PE teacher or PE teachers.

Attention to the pupils during PE lessons

A higher percentage of 51.7% of PE lessons had PE teachers who did not offer attention to pupils. PE lessons where pupils were given attention had 48.3%. Computed Chi Square value of X^2 = 53.860; p < .001 revealed that there was significant association between the attention given to the pupils during PE lessons and the types of school (in favor of high cost schools) (see Table 2).

Table 2: Safety Rules and Regulations in Private Primary Schools in Nairobi City County (Pupils' response and Researcher's observation)

Variable		**Categories of schools**			**Total 60(100) *f*(%)**	**Chi square *p*-value**
		High cost 12(20) *f*(%)	**Middle cost 18(30) *f*(%)**	**Low cost 30(50) *f*(%)**		
Everyone put on PE kits	Yes	12(100.0)	6(33.3)	15(50.0)	33(55.0)	
	No	0(0.0)	12(66.7)	15(50.0)	27(45.0)	p < .001
Total		**12(100)**	**18(100)**	**30(100)**	**60(100)**	
Presence or absence of the teacher during the PE lesson	Present	12(100)	18(100)	30(100)	60(100)	
	Absent	0(0.0)	0(0.0)	0(0.0)	0(0.0)	p=1
Total		**12(100)**	**18(100)**	**30(100)**	**60(100)**	
Attention to pupils during the PE lesson	Attention	12(100)	9(31)	8(26.7)	29(48.3)	p < .001
	No attention	0(0.0)	9(29)	22(73.3)	31(51.7)	
Total		**12(100)**	**18(100)**	**30(100)**	**60(100)**	

Table 3: Safety Rules and Regulations in Private Primary Schools in Nairobi City County (Researcher's observation)

Variable		Categories of schools			Total 60(100) *f*(%)	Chi square *p*-value
		High cost 12(20) *f*(%)	Middle cost 18(30) *f*(%)	Low cost 30(50) *f*(%)		
Presence of safety gadgets during the PE lesson	Present	12(100)	8(44.4)	0(0.0)	20(33.3)	$p < .001$
	Absent	0(0.0)	10(55.6)	18(60.0)	28(46.7)	
	Not required	0(0.0)	0(0.0)	12(40)	12(20.0)	
Total		**12(100)**	**18(100)**	**30(100)**	**60(100)**	
Execution of correct warm up during the PE lesson	Correct	9(75.0)	12(66.7)	3(10.0)	24(40.0)	$p < .001$
	Wrong	3(25.0)	4(22.2)	11(36.7)	18(30.0)	
	Not applicable	0(0.0)	2(11.1)	16(53.3)	18(30.0)	
Total		**12(100)**	**18(100)**	**30(100)**	**60(100)**	
Presence of cool down during the PE lesson	Present	5(41.7)	7(38.9)	3(10.0)	15(25.0)	$p = .027$
	Absent	7(58.3)	11(61.1)	27(90.0)	45(75.0)	
Total		**12(100)**	**18(100)**	**30(100)**	**60(100)**	

Presence of Safety gadgets during PE lessons

From the study findings, a higher proportion of PE lessons 28(46.7%) conducted in private primary schools did not have safety gadgets in activities that required them. 20(33.3%) of PE lessons conducted in these schools had required safety gadgets. The Chi square value of X^2= 45.714; p < .001 revealed that there was significant association between the types of school and pupils wearing safety gadgets in activities that required them to put on during PE lessons, with high cost schools associated with most pupils having safety gadgets in place and low cost associated with the least (see Table 3).

Execution of Correct Warm up session during PE lessons

It is evident from the study findings that out of all PE lessons that had warm up sessions, 24(40%) were reported to be correct and 18(30%) were reported to be wrong. Chi Square value of X^2 = 25.718; p < .001 showed that there was significant association between the types of school and the presence of correct warm up during PE lessons (in favor of high cost schools (see Table 3).

Presence of Cool down session during PE lessons

Results of the study indicate that a higher percentage of PE lessons conducted (75%) did not have cool down activity at the end of the lesson. Only 25% of these lessons were reported to have had cool down activity. Chi Square value of X^2 =7.230; p = .027 showed that there was significant association between the types of school and the presence of cool down during PE lessons (in favor of high cost schools) (see Table 3).

Discussion

Emergency Plans

The Government of Kenya (GoK) through the Ministry of Education requires that emergency plans should always be in place and activated should a serious accident or incident occur in schools (Ministry of Education, 2008). From the findings, it was reported by the PE teachers that majority of private primary schools had emergency plans in place. Pupils also confirmed that majority of them knew where to assemble in case of fire. This was an indication that they were aware of emergency programs in their schools. These results contrast with the findings of Wanjiru (2011) who stated that 45(93.8%) of pre-school teachers in Thika west district indicated that there were no emergency awareness programs in their preschools. The study findings also contrast with those of Kamau (2015) who established that most primary schools in Nairobi County neither had guidelines for preparedness for emergencies or a system for reporting hazards and accidents and the staff were not aware of safety regulations, procedures and laws governing the learning institutions. Majority of PE teachers stated that they were able to access communication devices in case of an emergency. These results concur with those of Wanjiru (2011) who found out that most preschools in Thika west district had maintained emergency kits, (92.9%), having telephones that are accessible to members of staff in case of emergencies. However, availability and execution of emergency plans were largely associated with high cost schools, with low cost and some medium cost schools recording lesser investment and practice of safety procedures. It is notable that Wanjiru (2011) and Kamau (2015) may have focused on public schools and /or low cost private schools.

Most schools had insurance covers though majority of PE teachers reported that they were not well versed with the procedures in the event of an emergency. These findings indicate non conformity with the recommendations from Borkowski (n.d.) who states that being aware of your legal responsibilities as a PE teacher is an excellent way to lower the chance of injury to students and legal problems to your school and to you. Central Bedfordshire Council (2013) also states that it is important that teachers should know and apply the safety procedures for dealing with injuries and other emergencies. This study may therefore conclude that though PE teachers indicated the availability of emergency plans in the schools and even children confirmed that they were aware of what to do in case of an emergency, majority of PE teachers were not well conversant with the safety procedures hence putting their lives and those of the children they teach in danger in case of a serious emergency.

Safety Rules and Regulations

Safety rules are important when conducting PE

lessons in schools (Kamenju, Kiganjo and Mwathi 2006). It was reported by the PE teachers that majority of the PE lessons conducted in private primary schools had safety rules displayed. These findings agree with the recommendations made by Wahome (1999) on sources of injuries during PE lessons in secondary schools in Nairobi province, Kenya, who states that students must be informed of safety policies during PE lessons as they affect them, particularly regarding safety rules. In her research she found out that sources of injuries during PE lessons were significantly related to instructional variables and lack of safety tips. Podstawski, Danuta and Nowosielska (2015) in their research on problems of safety and risks in PE in Poland, concluded that even though safety rules at PE classes are defined by specific regulations, children's absolute safety is never guaranteed. They further explain that in order to diminish the number of misadventures, the instructor is obliged to not only to adhere to the norms but also teach children safety rules.

It was reported by the pupils that majority of them put on PE kits during PE lessons. The researcher also noted that most of the pupils were putting on PE kits during PE lessons especially from high and middle cost schools. These findings go in line with the recommendation from the Catholic Church Insurance (2015) on safe sport and PE at school which states that pupils should always put on the right attire for physical activity during PE lessons to lower the possibility of injuries and law suits against teachers and schools. The study findings may support the research findings by Migosi, Kadenyi, and Maithya (2016) who indicated that only a small proportion (14.3%) of the respondents (Head teachers) were of a strong agreement that teachers and pupils dress appropriately for PE activities in primary schools in Manga Sub County, Kenya, given that the said study population is mainly public schools and /or low cost private schools. Further analysis by the authors revealed that (50%) of the respondents either "disagreed "or "strongly disagreed" that teachers and pupils dress appropriately for PE activities. They concluded that there is lack of sound dress policy during PE activities in (50%) of the schools. The current study therefore concludes that though PE teachers and pupils reported to have safety rules during PE and it is true that the researcher observed the presence of safety rules and majority of pupils were putting on PE kits, not all rules were being adhered to and not all pupils in all schools were putting on PE kits during PE lessons. Given that most Kenyan children attend public schools and /or low cost private schools, the partial implementation of safety rules with bias towards high cost schools put many children under danger during PA and in case of an emergency.

As a way of implementing safety precautions, it is advised that all physical activities be supervised (Ministry of Education, 2008). From the findings of the study, it was reported by the PE teachers that majority of the PE lessons were under the supervision of the teachers. The observation made by the researcher confirmed that most PE lessons were under the supervision of a teacher in private primary schools. These findings go in line with the recommendation from the Catholic Church Insurance (2015) on safe sport and PE at school which notes that inadequate supervision of students by the teachers is one factor that is capable of dramatically increasing the risk of injury during PE lessons. The study findings contrasts with findings form general Kenyan typical schools as reported by Migosi, Kadenyi, and Maithya (2016). The authors indicated that 41.3% of the teachers sometimes supervised pupils during PE activities and 23.7% of the teachers always supervised pupils during PE activities. The results further revealed that 17.4% and 18.1% of the teachers rarely and never supervised pupils during PE play activities respectively. However, the results of the current study revealed that though majority of PE lessons were under the supervision of the teachers, the observation made by the researcher indicated that majority of them in low and medium cost schools had passive supervisors. The recommended supervision comprises of the principles of general and specific supervision which take into consideration the risk level of the activity, the participants' skill level and the participants' maturity. The findings indicate that most of the low and medium cost schools do not adhere to recommendations by Mwathi and Kamenju (2006) who state that a passive observer

is not a supervisor for a supervisor should give proper guidance to the learners during PE lessons. Therefore, this may mean that there is likelihood of negligence by teachers due to passive supervision and pupils may still be at danger during the PE lessons in low and medium cost schools.

Birmingham City Council (2011) states that while injuries often occur during the regular course of play, there are certain factors capable of dramatically increasing the risks like not having protective gear, ill-fitting, or outdated protective gear. In this current research, it was observed that majority of the PE lessons conducted did not have safety gadgets in activities that required them in low and medium cost schools. This was not good for pupils as it makes them vulnerable to injuries. These findings indicate non conformity with the recommendation by Fountain and Goodwin (2002) who states that children should always wear sport-specific, properly fitting safety gear when participating in sports activities to prevent injuries. Roseburg (n.d.) found out that, after the introduction of face masks for hockey players in Canada in 1971 and soon became mandatory in amateur leagues, eye injuries in hockey have steadily declined since that time. The study findings of the current study show that the situation in most Kenyan low and medium cost private primary schools contrast with these safety guidelines. Failure to put on safety gadgets by pupils in some schools during PE lessons as per the observation made in this study is an indication that the children' safety is not guaranteed during PE lessons.

Warm up and cool down sessions are supposed to be part and parcel of any PE lesson as one way of preventing injuries (Fountain and Goodwin, 2002). Proper warm up sessions have no short cuts rather they ensure that pupils are physically ready to participate in physical activities Borkowski (n.d.). It was reported from the observation made by the researcher that majority of PE lessons conducted had warm up sessions that were not correct (in low and medium cost schools) and did not have cool down activities either (all types of schools). These findings show that the situation in private primary schools in Nairobi, Kenya, do not conform to sound safety practices, such as the recommendation from Singapore Ministry of Education (2005) that PE class sessions must include appropriate warm-up and cool-down sessions. In their research on comparing the effects of a PE-based stretching program performed during warm-up and cool-down periods on hamstring extensibility in school children aged 9-10 years, Vega, Marban, Garrido and Viciana (2014) found out that both the warm-up and cool-down students had statistically significant higher values on the hamstring extensibility than the no-training students ($p < .05$). They concluded that it is possible to develop school children's hamstring extensibility through a PE-based stretching program performed during both warm-up and cool-down. Moreover they state that PE teachers should improve students´ flexibility mostly during the cool-down period of the sessions. From the observation made by the researcher, where most PE lessons lacked proper warm up and cool down sessions, it may therefore be concluded that pupils may still be at danger of getting injuries during PE lessons due to the negligence of the PE teachers on failure to offer proper warm up and cool down sessions.

Conclusions

The type of private primary school in Nairobi City County determined the adherence to safety rules by both pupils and PE teachers with a positive bias towards the high cost schools. Not all private primary schools in Nairobi City County have proper emergency awareness programs for PE lessons. Majority of high cost private primary schools are keen in implementation of emergency plans and most of safety regulations for PE lessons while most low cost primary schools are not, and may expose the pupils to higher risks. There is likelihood of negligence by teachers in most of the low and medium cost schools due to passive supervision, which may expose pupils to danger during the PE lesson. The GoK through the ministry of education should enforce the safety requirements in schools more firmly to ensure safe environment and participation in PA by pupils across social economic spectrum.

Acknowledgement

We would like to acknowledge and thank all the study participants and their parents/ guardians, the Nairobi County Education office and the administration and staff of the participating schools.

References

1. Barb, F. (2005). *Parent action for healthy kids*. Retrieved April 4, 2015 from www.parentactionforhealthykids.org/resources/physical-education-vs-physical-activity/.

2. Birmingham City Council. (2011). Policy and procedures for physical education and school Sport. Retrieved November 18, 2016 from web.newhall.bham.sch.uk/uploads/4/0/6/2/4066273/pe-policy-2011.pdf.

3. Borkowski, R. P. (Ed.). (n.d.). *A risk management primer for physical education teachers*. Retrieved August 16, 2016 from http://web3.esd112.org/docs/programs/putting-prevention-into-practice.pdf?sfvrs.

4. Catholic Church Insurance. (2015). *Safe sport and Physical education at school*. Retrieved August 16, 2016 from www.risksupport.org.au.

5. Central Bedfordshire Council. (2013). *Safe practices in physical education*. Shefford: Bedfordshire.

6. Foresters Company. (2013). *Importance of physical education in primary schools*. Retrieved August 5, 2013 from http://www.first4families.co.uk/education/the importance-of-PE-in-primary-schools/.

7. Globe Media Ltd. (2014). Expats arrivals, education and schools in Kenya. Retrieved July 24, 2014 from www.expatarrivals.com/kenya/education-and-schools-in-kenya.

8. Kamau, S.M. (2015). *Occupational accidents in primary schools within Nairobi County, Kenya: Awareness and prevention* (Research project). Nairobi: Kenyatta University. Retrieved February 9, 2017 from www-slideshare.net/steveMbugua/first-aid-research-project-64900720.

9. Kenya –Advisor. (2014). *Education in Kenya: An introduction*. Retrieved July 28, 2015 from http://www.kenya-advisor.com/education-in-kenya.htm/.

10. Macharia, K. (2012). *Influence of school playground safety on the participation of preschool children in outdoor activities in Central division, Naivasha district* (Master's thesis). Nairobi: University of Nairobi.

11. Migosi, Z., Kadenyi, M., & Maithya, P. (2016). Influence of teacher related factors on the implementation of physical education syllabus in public primary schools in Manga sub county, Kenya. *International journal of education and research, 4*(9).

12. Ministry of Education. (2008). Safety Standards Manual for schools in Kenya. Nairobi: Church World Services.

13. Kamenju, J., Kiganjo, G., and Mwathi, L. (2006). *Primary teacher education: Physical education*. Nairobi: Jomo Kenyatta Foundation.

14. National Crime Prevention Council. (2015). *School safety*. Retrieved September 10, 2015 from http://www.ncpc.org/topics/by-audience/parents/school-safety.

15. Nationwide children's. (2009). *When your child needs a hospital everything matters*. Retrieved August 5, 2013 from children's http://www.nationwidechildrens.org/news room-articles/new-national-study finds-increase-in-pe-class-related-injuries?contentid=49229.

16. Podstawski, R., Zwolinska, D., & Nowosielska, S. D. (2015). Problems of safety and risks in physical education, Poland. *Journal of Pedagogics, psychology, medical-biological problems of physical training and sports, 8*(10), 82-89. doi.org/10.15561/18189172.2015.1013.

17. Rosenburg, J. G. K. (n.d.). *Play safe: Physical literacy and injury prevention guide for leaders*. Canada: Health sciences Centre.

18. Singapore ministry of education. (2005). *Physical education syllabus (primary, secondary, pre- university levels)*. Singapore.

19. Tooley, J., & Dixon, P. (2005). *Private education is good for the poor: A study of Private schools serving the poor in the low income Countries*. Washington, D.C: CATO Institute.

20. Vega, D. M., Marban, R. M., Garrido, J., & Viciana, J. (2014). Comparison between warm up and cool down stretching programs on hamstring extensibility gains in primary school children. *Journal of physical activity review, 2,* 16-24.

21. Wahome, P. (1999). *Sources of injuries in physical education classes in Nairobi secondary schools: Implications for legal liability* (Master's thesis). Nairobi: Kenyatta University.

22. Wanjiru, G. (2011). *An investigation into emergency management preparedness of children's*

physical safety in preschools in Thika West district, Kenya (Masters Project) Nairobi: University of Nairobi.

23. Wanyama, M. N. (2011). *The challenges of teaching physical education: Juxtaposing the experiences of physical education teachers in Kenya and Victoria* (Master's thesis). Melbourne graduate school of education: The University of Melbourne.

24. Women Education Researchers of Kenya. (2011). *Safety in primary schools*. Retrieved August 18, 2014 from waweza.org/go/uwezo-kenya-to-launch-2011-national-assesment-report-july-19.

Статья поступила в редакцию: 11.01.2019

Stella N. Wayong'o *- (MSc), Exercise and Sports Science Postgraduate, Department of Physical Education, Exercise & Sports Science, Kenyatta University, Kenya*
Francis M. Mwangi* *- (PhD), Lecturer, Chairman, Department of Physical Education, Exercise & Sports Science, Kenyatta University, Kenya, mwangi.francis@ku.ac.ke**
Lucy-Joy M. Wachira *- (PhD), Lecturer, Department of Physical Education, Exercise & Sports Science, Kenyatta University, Kenya.*
Elijah G. Rintaugu *- (PhD), Associate Professor, Department of Recreation & Sports Management, Dean, School of Hospitality, Tourism & Leisure Studies, Kenyatta University, Kenya*