The Condition of Health Safety of Environment in Schools of Rural Area in North- West of Iran.

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Abstracts: Background: We aimed to benchmark standards against prevailing situation of health environment and safety among sampled rural schools in Iran. Methodology: : This study is a descriptive study conducted in 62 primary schools in rural area of Ardebil (Namin) in Iran. Sampling was done by census and data was collected using standard questionnaire by direct interview. Data was analyzed by Excel and $SPSS_{20}$ software using ANOVA testing. Results: The P value for boys school (P=0.15), girls school (P=0.65) and mixed schools (P=044)indicated in case of gender there are no significant differences between health safety and environment of schools in this area. The ergonomic information released that the highest standards are associated with altitude of rooms, black board, light and temperature. Although ergonomic chair (9%), voices (37%) and air condition (29%) showed lower conformity in compare to standards. Conclusion : Some standards perfectly applied in schools which are observed in this study. Although awareness and implementation of recommended HSE standards, schools neglecting and overlooking these standards had lower HSE ratings. It is necessary that schools with lower HSE ratings are made aware of the guidelines and necessary infrastructures allocated to improve their HSE ratings.[Behzadkolaee S NJIRM 2015; 6(1):62-65]

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Introduction: A healthy and safe school environment implies a positive and welcoming school climate for all students. This component incorporates a broad spectrum of issues from the physical environment of the school building to the emotional wellbeing of students and staff.[1] The physical environment can affect student academic achievement in a variety of ways. Lighting and aesthetic characteristics such as architecture, landscaping, color, artwork, acoustics, flexible spaces, and movable furniture, with designated areas of quiet and/or celebration can make the school building a comfortable setting for productive activity. [2] Considering out of 75 million of population 18 million are students of schools in Iran, providing an appropriate educational environment is critical in this country.[3-4]According to word standards health safety environment referee to "Air and water quality; the presence or absence of physical, biological, and chemical agents; and general maintenance and upkeep all contribute to the experience of the school as a place for living and learning. In addition, researchers have found that crowding, noise, temperature, humidity, and other environmental factors can affect the health and academic performance of students and staff.[5, 6-7]The school

climate should evoke feelings of inclusion, physical and psychological safety, and connectedness for every student. The school should invite learning and celebrate individual interests and uniqueness.[8]

Considerable research on adolescent development highlights the importance of connectedness to school as a major contributor to healthy social and emotional development and academic success. Feeling connected to school is also a protective factor against risky sexual, violent, and drug use behaviors, absenteeism, suspensions, and psychiatric problems. [9]

The school is a vital place for learning, acquiring skills and basic attitudes, which is retained with the students all along their life. Flourishing maximum talents and requiring high levels of learning needs optimal levels of health and welfare environment. Hence investigating in education affairs is of most strategic investigation and of the most important ways of increasing development and attaining maximum outputs. In the absence of optimal levels of healthy strategies the education programs can fail resulting in academic failure and poor return of investment. Several health standards, national and international guidelines and frameworks are

defined [3] and we aimed to benchmark these standards against prevailing situation of health environment and safety among sampled rural schools in Iran.

Material and Methods: This is a descriptive study included all rural area of Namin- Ardebil (Iran). All schools in rural area were governmental (N=72) schools. Of 72 schools 21 schools were boys, 15 girls and rest were mixed. Cocran formula employed to calculate the sample size and finally 62 schools selected. Therefore we selected 62 schools as sample.

Tools: The health safety and environment questionnaire is designed according to environmental health, professional health and safety of schools rules and standards by Aghili in health ministry of Iran and comprised 115 items. The questionnaire included three subscales i.e. 60 item health, 43 items of safety and 12 environmental items. As each question of the questionnaire could get full score of 1, the rate of 100% shows the full score. We classified the estimated rates as follows: a) Rates under 50% as poor. b) Rates between 50% to 64% as moderate. c) Rates from 65% to 79% as good. d) Rates from 80% to 100% as perfect.

 The managers of schools interviewed and data collected through direct observation in same time. The following steps were adopted: 1) The questionnaire included 115 questions about assessment of HSE management systems in elementary schools of Sari city. The questionnaire was aligned to the most up-to-date recommendations on environmental, professional and environmental health. 2) We referred to the selected schools and filled the questionnaire through interview and observations. 3) Validity and reliability were estimated. [4] The observed characteristics were compared to the standards. 5) Data was analyzed.

Statistic: We analyzed the data through SPSS and EXCEL software's. The data first normalized by KS (*Smirnoff)* then descriptive data released (frequency, Mean, standard deviation). ANOVA also used to compare three kind of schools (girls, boys and mixed) and three schools level

(elementary, guidance school and high school) in three subscales of questionnaire i.e. health, safety and environment.

Results:

Table 1: The status of health, safety and environment in different schools grade

Variables	Elementary		Guidance school		High school	
	N	%	N	%	N	%
Health	7	100	12	100	43	100
Safety	7	85	12	75	43	86
Environment	7	71	12	58	43	72

The finding of this study showed all schools were perfect in case of health . Although the scores of subscales were as following (consider the best condition is 100%): the elementary schools showed highest scores 86% and 72% for safety and environment respectively. In guidance schools safety was 75% and environment 58%. In the high schools safety was 85% and environment 71% (Table 1).

Table 2: The status of health, safety and environment in schools according gender

Variables	Girls		Boys		Mixed	
	N	%	N	%	N	%
Health	34	100	12	100	16	100
Safety	34	88	12	100	16	93
Environment	34	70	12	66	16	68

In Table 2, the status of HSE presented regarding gender of students as it is obvious in the table the status of health was perfect in all schools. Although safety and environment were 93% and 68% in boys school , 100% and 16% in girls school, 88% and 70 % in mixed schools respectively. There was no any school with perfect (100%) score in all subscales.
The findings showed that the health condition in girls and boys school is appropriate. In term of safety 16% of girl's school, 19% in boy's school were poor. Although 28% of boys school and 12% of girls school and 34% of mixed school were excellent.

Environment standards were poor in 23% of girl's school and 33 % of boy's school and 22% in mixed

school. While it was excellent in 14% of boys school,8% girls school and 3% of mixed school the rest were average.

Any school was not fall in poor condition in term of health. Health condition in high schools (57%) were better than guidance (50%) and primary schools (30%). The safety condition showed the worse scores in guidance schools (25%). 18% in primary school, 8% in guidance school and 4% in high school were excellent regarding safety. Poor Environment reported for 14% of primary schools, 13% guidance school and 14.3 for high schools.1 8% of primary schools, 8% guidance school and 42% in high school were evaluated as excellent.

Finally only 18% of primary schools, 25% of guidance school and 71% of high schools were excellent in total health safety and environment standards. The rest were average.

Table 3: Ergonomic Condition Of Schools

Condition	Match with standards		Miss-match with standards	
	N	%	N	%
Floor	57	91.9	5	8.7
Height Of Room	62	100	0	0
Blackboard	59	95.1	3	4.8
Blackboard Distance	60	96.7	2	0
Heightof Black Board	62	100	0	0
Light	62	100	0	0
Wall Color	58	93.5	4	6.4
Roof	59	95.1	3	4.8
Chair	23	37	39	62.9
Temperature	62	100	0	0
Height Of Drinking Water	52	83.8	10	16.1
Air Conditioner	49	79	13	20.9
Noises	38	61.2	24	38.7

Table 3 shows the ergonomic condition of schools of rural area selected in this study. As it is obvious from table the worse condition is related to chair and noises. While best conditions were associated with temperature and structure of classroom such as light, height of room and black board.

Discussion & Conclusion: Several; years ago health ministry of Iran has been started to organize planning and monitoring of health situation in schools. While ministry of education bounded with limitations such as economical sources and lack of enough trained personnel regarding health related problems. Education ministry mainly focused on educational related matter and the main target of this organization was eradicate illiteracy which managed appropriately during last three decades. The employed experts of health ministry annually reporting the deficits and problems of schools in term of health safety and environment but there is not much executive guarantee behind of this attempts.[10] Therefore the evaluation of health risks in schools normally is not satisfying. [11] While schools expected to train children and adolescence who will compete with this word and develop the country. [10]Thisinquire to inclusive education in national level to train personnel and execute the result of surveys to enhance the health and safety of environment in schools. In fact we have to recognize who, were, how and what needed to organize this pain in educational environments. [11-12]

The results of study showed there is no difference between schools health safety and environment regarding gender p-value for boys school (0.44), girls school (0.65) and mixed schools (0.15). The difference of schools regarding grade level also revealed the same findings. The finding overall showed health situation in rural area of Iran is average or excellent but some schools suffers from limited facilities regarding safety and environment. Therefore the perdition for prevention of injuries and accidents poorly applied in these schools. While the surveys shows most accidents and injuries occur in schools are associated to school environment among children. [12] Also the US environment protection agency reported the air pollution in schools is 2-5 times more than standards.[13]

The present study revealed that the worse condition is related to chair and noises. While best conditions were associated with temperature and structure of classroom such as light, height of room and black board. This finding shows the in charges

in environment of schools are mostly unaware about the effectiveness of ergonomic characters of environment in academic achievements.

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