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ORIGINAL

OLIMPIADA NACIONAL INFANTIL Y ELITE 2007 EN PUEBLA, MÉXICO

CHILDREN AND ELITE NATIONAL OLYMPIAD 2007 PUEBLA, MÉXICO

Reyes Guzmán, G.L.¹ y Buendía Lozada, E.R.P.²

¹Médico especialista, Profesor de Tiempo Completo de la Benemérita Universidad Autónoma de Puebla (BUAP). Puebla, México. greyes.g@hotmail.com

²Master en Ciencias y Juegos Deportivos, Profesor de Tiempo Completo de la Benemérita Universidad Autónoma de Puebla (BUAP). Puebla, México. buendiaenr@yahoo.com.mx

Spanish-English traslator: Buendía Lozada, E.R.P.

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ABSTRACT

In this paper work a study of the relation realizes: participants' genre against sports and against number of participants with respect to injuries and illnesses. With the aim to establish points of reference to the activity that surrounds this type of events.

KEY WORDS: Spots medicine, Sports sciences, Sporting events, Regionalism & sports, Sport injuries.

RESUMEN

En el presente artículo se realiza un estudio de la relación: género de participantes frente a deportes y frente a número de participantes con respecto a traumatismos y enfermedades. Con el objetivo de establecer puntos de referencia para la actividad que rodea este tipo de eventos.

PALABRAS CLAVE: Medicina deportiva, Ciencias del deporte, Eventos deportivos, Regionalismo deportivo.

INTRODUCTION

In the absence of scientific documentation as result of the implementation of the National Olympiad child and elite, raised the need for research regarding the effects (from the medical point of view) in the youth at this event, held for the first time in 1996 by the National Sports Commission (CONADE), only with 6 sports and 5 states (Country of México has 32 states and one Federal District(DF)) and that for 2001 there were 21 sports , the event was initiated with the aim of promoting the sport, with the purpose of being a hotbed of talent, now is organized into 8 regions (approximately 4 states by region, in conjunction with the National Polytechnic Institute (IPN), National Autonomous University of Mexico (UNAM) and Instituto Mexicano del Seguro Social (IMSS)), taking into account the selective processes that are performed: intramural, municipal, regional and each state, which together begin approximately 7 months prior to the National Olympiad youth (which is an annual event).

The National Olympiad child, juvenile and elite based in the city of Puebla, Mexico (which includes the city of Atlixco, Puebla) is the basis of this article related to health information that occurred around this activity.

METHODOLOGY

Analyzed are Sports: Bowling, Modern Pentathlon, Handball, Table Tennis, Basketball, Archery, Fencing, Hockey, Badminton, Athletics, Gymnastics and Softball (National Center for Information and Documentation for Physical Culture and Sport, Mexico.). People who participated in the National Olympiad 2007 were 13888 and the roles of these participants were: Delegate for sport, sportsman, Delegate Assistant, Coach, Judge / Referee.

With the distribution of participants (Centro Nacional de Información y Documentación de Cultura Física y Deporte.) In Figure 1.

Estado	Bowling	Modern Pentathlon	Handball	Table tennis	Basketball	Archery	Fencing	Hockey	Badminton	Gymnastics	Softball	Athletics
1 México	25	38	79	19	65	31	67	117	17	41	0	146
2 DF	31	35	126	25	164	13	65	192	25	18	52	154
3 Sonora	7	0	94	14	128	43	9	139	0	34	1	142
4 BC sur	0	0	12	19	47	21	0	0	0	0	0	65
5 BC	22	23	119	29	131	53	57	69	18	74	48	127
6 Nuevo León	24	20	121	45	135	50	57	69	24	76	1	145
7 Jalisco	27	31	79	36	132	38	83	123	19	63	23	176
8 Puebla	37	24	176	46	140	35	60	111	26	11	44	234
9 Querétaro	0	32	0	37	68	22	42	0	0	16	1	106
10 Aguascalientes	22	13	88	35	111	11	42	23	12	15	15	21
11 Campeche	0	0	67	4	84	18	0	0	0	2	15	29
12 Chiapas	0	21	0	11	120	0	25	0	0	0	0	71
13 Chihuahua	14	21	116	22	123	8	29	87	13	5	40	192
14 Coahuila	1	0	113	0	138	19	12	61	0	12	47	113
15 Colima	0	0	99	21	86	5	0	1	18	25	0	17
16 Durango	12	0	0	0	78	0	0	46	0	0	2	63
17 Guanajuato	25	6	112	12	89	18	38	239	19	25	20	62
18 Guerrero	10	9	64	0	104	0	6	0	10	0	24	9
19 Hidalgo	0	22	0	24	0	23	13	0	13	0	20	12
20 IMSS	0	0	26	0	0	0	9	0	0	6	0	41
21 IPN	34	9	84	39	0	13	0	0	0	2	0	16
22 Michoacán	6	0	0	0	112	0	0	55	0	0	0	88
23 Morelos	4	0	91	0	119	0	7	0	0	5	0	29
24 Nayarit	0	0	12	27	101	0	13	0	22	4	18	75
25 Oaxaca	0	0	48	0	112	0	0	0	0	0	24	25
26 Quintana Roo	19	0	44	28	113	23	22	85	0	8	1	32
27 San Luis Potosí	0	0	0	14	87	0	0	0	8	4	1	40
28 Sinaloa	22	0	0	11	118	3	0	0	0	8	47	91
29 Tabasco	0	0	35	6	80	0	13	0	0	7	18	24
30 Tamaulipas	9	0	0	0	118	0	13	0	0	13	24	102
31 Tlaxcala	0	4	17	8	17	20	8	55	0	0	1	52
32 UNAM	25	0	99	23	94	13	44	0	0	4	0	38
33 Veracruz	0	0	74	0	112	13	15	45	13	11	0	153
34 Yucatan	7	19	96	42	109	45	61	103	16	23	25	88
35 Zacatecas	6	0	0	13	110	0	0	26	0	0	17	40

Figure 1: Distribution of participants by sport

30 Physicians were distributed in 15 centers in Puebla and Atlixco (2 per each center and 3 hotels). A student of Faculty of Physical Culture of Benemérita Universidad Autónoma de Puebla (BUAP), to collect reports from each health care center, subsequently classification performed by date, sport, sex, diagnosis and origin of each participant, and later perform data entry in Excel (Microsoft) and using the statistical package Statgraphics Plus 5.1 for analysis statistics. Literature sought to make analysis reports compiled and was not found.

RESULTS

The distribution of injuries from sports can be seen in the following table 1:

Table tennis		Basketball		Gymnastics	
sprain	9	contracture	8	contracture	4
wound	14	contusion	99	contusion	13
contracture	8	distension	6	distension	2
heel pain	1	edema	1	sprain	5

contusion	11	sprain	54		
distension	1	wound	31		
		back pain	2		
		dislocation	2		
		tendonitis	2		
		trauma	1		
Archery		Handball		Fencing	
contracture	1	contracture	29	contracture	7
contusion	1	contusion	166	contusion	31
distension	2	sprain	95	tear	1
sprain	5	tear	6	detachment of nail	1
wound	3	distension	4	distension	4
muscle injury	1	fracture	1	sprain	17
		wound	20	fasciitis	1
		dislocation	2	wound	10
		politendonitis	1	tendonitis	1
		probable fracture	2		
		tendonitis	4		
Badminton		Athletics		Bowling	
contracture	3	contracture	72	contracture	8
contusion	13	contusion	38	contusion	17
tear	9	tear	4	tear	6
distension	1	distension	30	sprain	4
sprain	10	sprain	27	wound	1
heel pain	1	heatstroke	1		
		wound	24		
		tendonitis	12		
Hockey		Softball		Modern pentathlon	
contracture	12			contracture	2
contusion	96			contusion	9
distension	2			sprain	7
sprain	17			wound	3
wound	15				

Table 1: Frequency of injuries

The distribution of diseases sport shown in Table II:

Table tennis		Basketball		Gimnasia Artística	
headache	25	headache	7	pharyngitis	1
heartburn	1	colitis	2		
tonsillitis	9	dehydration	1		
abdominal colic	1	dysmenorrhea	1		
conjunctivitis	1	pharyngitis	9		
dysmenorrhea	1	gastritis	3		
pharyngitis	1	gastroenteritis	44		

gastritis	1	herpes	1		
gastroenteritis	5	hypertension	1		
hemesis	1	hypotension	2		
hypertension	6	bee sting	1		
hypotension	1	rinopharyngitis	2		
intestinal infection	1	cold	1		
food poisoning	1				
otitis	1				
cold	1				
rinipharyngitis	1				
vertinous syndrome	1				
measuring blood pressure	2				
Archery		Handball		Fencing	
appendicitis	1	bronquitis	1	tonsillitis	1
headache	1	headache	12	headache	2
colitis	1	sciatica	1	conjunctivitis	1
conjunctivitis	4	colitis	1	asthma attack	1
foreing body in eye	1	conjunctivitis	1	dysmenorrhea	3
dysmenorrhea	2	dehydration	1	pharyngitis	4
pharyngitis	1	dysmenorrhea	2	faringotonsillitis	1
faringotonsillitis	4	pharyngitis	3	gastritis	3
gastroenteritis	8	faringotonsillitis	2	gastroenteritis	4
heatstroke	1	muscle fatigue	1	hypotension	1
		gastritis	4	laryngitis	1
		gastroenteritis	8	back pain	1
		hipertermia	1	probable appendicitis	1
		back pain	4	allergy	1
		toothache	1	measure pressure	1
		insect bite	4		
		allergy	1		
		cold	1		
		traquobronquitis	1		
Badminton		Athletics		Bowling	
tonsillitis	2	alergia alimentaria	1	headache	8
headache	4	tonsillitis	2	conjunctivitis	4
conjunctivitis	1	headache	19	faringotonsillitis	1
nervous breakdown	1	colitis	1	neuritis	1
cuerpo extraño	1	colon irritable	1	toothache	1
dysmenorrhea	2	dermatitis	1	cold	4
pharyngitis	4	dehydration	1		
gastritis	1	dysmenorrhea	2		
gastroenteritis	9	pharyngitis	9		
hypertension	1	faringotonsillitis	7		
back pain	4	gastritis	7		

migraña	1	gastroenteritis	19		
toothache	1	hypertension	9		
cold	4	back pain	5		
		toothache	1		
		rinopharyngitis	1		
		cold	6		
		vertinous syndrome	2		
		measure pressure	1		
Hockey		Softball		Modern pentathlon	
tonsillitis	3	dermatitis	1	tonsillitis	1
headache	12	pharyngitis	1	headache	1
conjunctivitis	2	faringotonsillitis	1	pharyngitis	1
dehydration	1	gastroenteritis	14	gastritis	2
dysmenorrhea	5	otitis	1	gastroenteritis	1
pharyngitis	1			hypertension	1
faringotonsillitis	2			hypotension	2
gastritis	3			food poisoning	1
gastroenteritis	18			measuring blood pressure	1
hipoglicemia	1				
laryngitis	1				
measure pressure	2				

Table II: Frequency of diseases

Using Statgraphics Plus 5.1 for the case of one-way ANOVA for data in Table III, finds no significant difference to trauma in men and women with a confidence level of 95%.

Injuries	Women	Men
Bowling	31	5
Modern pentathlon	16	5
Handball	166	164
Table tennis	33	11
Basketball	129	77
Archery	5	8
Fencing	37	36
Hockey	78	64
Badminton	13	24
Gymnastics	11	13
Softball	0	0
Athletics	99	109

Table III: Injuries reported in Puebla headquarters

Diseases	Women	Men
Bowling	13	6
Modern pentathlon	4	7
Handball	25	25
Table tennis	27	34
Basketball	40	35
Archery	17	7
Fencing	14	12
Hockey	22	29
Badminton	19	17
Gymnastics	0	1
Softball	17	1
Athletics	47	48

Table IV: Illnesses reported in Puebla headquarters

Using Statgraphics Plus 5.1 for the case of diseases, ANOVA also finds no difference between samples of women and men, with a confidence level of 95% (see Table IV). In the case of total injuries and illnesses using Statgraphics Plus 5.1 no significant differences with 95% accuracy.

To check if there is a significant difference in the relationship sports – number of injuries is the ANOVA (see Table V):

ANOVA Table for Col_2 by Col_1

Analysis of Variance					
Source	Sum of Squares	DF	Mean Square	F-Ratio	P-Value
Between groups	10076.3	11	916.026	8.84	0.0000
Within groups	7251.32	70	103.59		
Total (Corr.)	17327.6	81			

Table V: ANOVA summary table comparing the case against sports injuries.

The difference is significant with a confidence level of 95% (see Figure 2), sports versus trauma.

To check if there is a significant difference on sports – number of diseases is the ANOVA (see Table VI):

ANOVA Table for Col_2 by Col_1

Analysis of Variance					
Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Between groups	600.788	11	54.6171	2.50	0.0102
Within groups	1526.59	70	21.8084		
Total (Corr.)	2127.38	81			

Table VI: ANOVA summary table comparing the case of sports against diseases.

The difference is significant with a confidence level of 0.95% (see Figure 3), sports versus diseases.

In the case of injuries and illnesses in the following order: 1: Table tennis, 2: Athletics, 3: Basketball, 4: Handball, 5: Fencing, 6: Modern Pentathlon, 7: Hockey, 8: Bowling, 9: Archery, 10: Badminton, 11: Gymnastics and 12: Softball, show the illustrations 2 and 3, showing the differences.

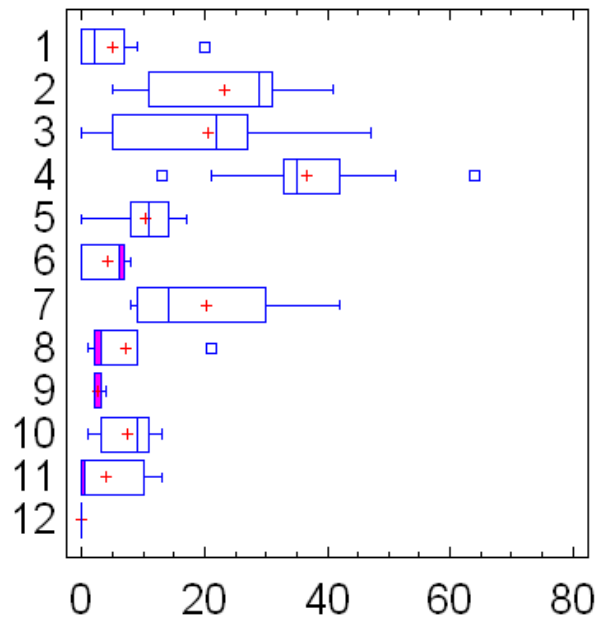


Illustration 2: Boxplot: Sports (y) versus trauma (x).

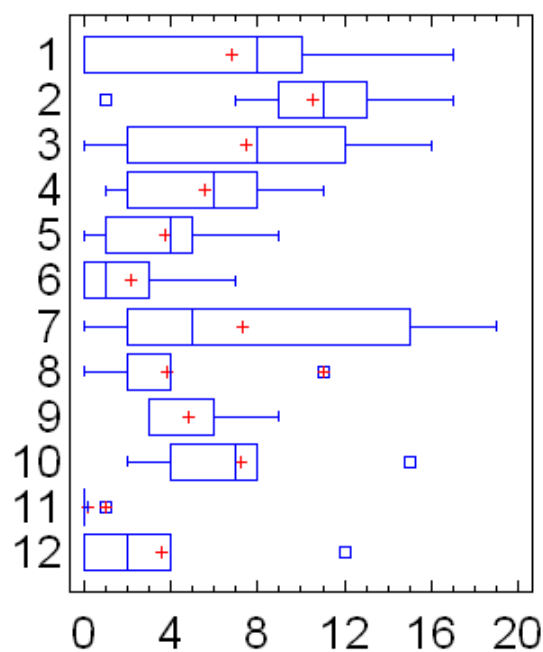


Illustration 3: Boxplot: Sports (y) versus diseases (x).

A total of 81 medical reports were considered incomplete (not captured for analysis) because they were not diagnosed. Registered medical reports are: Women: 618 (injuries) and 245 (diseases), Men: 516 (injuries) and 222 (diseases), with a total of 1601 medical reports captured.

Lesions that were abandoned of activities are:

- Left middle finger dislocation, gender: male, Guanajuato, in Basketball.
- Probable fracture or third degree sprain, DF, gender: female, in Handball.
- Sprained medial collateral ligament in his left knee, Sonora, gender. Female, in Handball.
- Dislocated left elbow, Chihuahua, gender: male, in Handball.
- Dislocated left elbow, Puebla, gender: male, in Handball.
- Concussion, Puebla, gender: male, in Handball.
- Right leg muscle strain, Tabasco, gender female, in Athletics.
- Left leg muscle strain, Nayarit, gender: male, in Athletics.
- Left thigh muscle tear, Chihuahua, gender: male, in Athletics.
- Left thigh muscle tear, Sonora, gender: female, in Athletics.

The medical reports referred to the fact of a query of urgency, without medical supervision, diagnoses were exclusively clinical, so the full etiologic diagnosis cannot be reported.

DISCUSSION

It is not known what type of medical examination conducted by competitors (Section V Article 12 of regulation (CONADE, 2007), includes authorization of parents to children), and also proposed the convening Doping Control and Prevention, regional and national stage. To not be a comprehensive medical examinations have possibility that this event is negative for youth.

The supply of scheduled drugs was significantly exceeded by 75% (Coordinación Médica Instituto Poblano del Deporte, 2007), This could cause other problems that are not considered, with unpredictable consequences. General diseases and especially infectious digestive tract pose revisions in controls of event.

The Daily Care sheet has only the following areas: Patient name, date, sport, national origin, diagnostic impression, Tx, material used, location where the service was rendered, name and signature of the doctor's name and signature patient (Gobierno del Estado, 2007). It does not take into account any specific methodology with goals set for this worksheet, it is proposed to be a hotbed of talented athletes this event.

The document (Stier & Alvarez, 1991) and mention of some problems related to the sport in México couple with the features shown in this paper would seem that there is no breakthrough in the objective of this event.

CONCLUSION

Taking into account the 81 undiagnosed medical reports were seen to 12.11% (1682 medical reports) of the participants to the event due to injuries or illness. Medical care was conducted in 12 sports centers and 3 hotels.

Bibliographic information (papers) for this event and there made since, although searching: <http://www.conade.gob.mx/>, <http://www.puebla.gob.mx/inpode/#> , http://www.discapacinet.gob.mx/wb2/eMex/eMex_Ley_General_de_Cultura_Fisica_y_Deporte_12, <http://www.conade.gob.mx/ceid/index.html>, <http://redalyc.uaemex.mx/> , <http://dialnet.unirioja.es/> , <http://www.efdeportes.com/index.html> , <http://www.doaj.org/> , <http://www.scirus.com/srsapp/> , <http://web.ebscohost.com/ehost/search?vid=1&hid=6&sid=d5be8883-eece-4201-a234-cbf1e4ebdc7f%40sessionmgr8>.

In Figures 2 and 3 and Tables V and VI we have:

No significant difference between injury and disease between men and women.

The difference is significant between sports and number of reported cases of injuries and illnesses. The high record sports injuries is Handball and diseases is

Hockey in contrast to sports which have registering cases under Softball (injuries) and Gymnastics (diseases).

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