ANNALES
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN – POLONIA
VOL. XXIX (2) SECTIO EE 2011

Department of Horse Breeding and Use, University of Life Science
Akademicka 13, 20-950 Lublin
e-mail: bocian@op.pl

KRZYSZTOF BOCIAN, KATARZYNA STRZELEC,
PATRYCJA DZIUBIŃSKA

Results of para-dressage competition with regard to different levels of difficulties

Wyniki zawodów w parajeździeniu rozgrywanych na różnych poziomach trudności

Summary. Para-dressage is the only riding competition available for the physically impaired people in Poland. All the participants need to be classified in order to ensure the fairness of the competition. Then each of them is assigned a functional profile and a competition grade. There are four grades available and the riders are required to perform the following tests: warm-up, individual and freestyle. Each dressage movement in a test is rated with a one to ten scale. The study was conducted on the material collected in 2007–2008 during para-dressage competitions in Poland. The riders competed on 9 horses of different breeds aged between 8 and 14 years coming from six centers specialized in para-equestrian disciplines. The following factors were considered in the analysis: type of impairment, level of difficulty and kind of competition. It was found that the freestyle test was awarded the highest number of points. The most highly scoring riders were all competing in the 2nd level. The para-dressage result is influenced not only by the riders' type of impairment, but also by the rider's preparation and natural riding talent. The most frequent impairment among the Polish competitors was Cerebral Palsy.

Key words: disability, para-equestrianism, dressage, grades

INTRODUCTION

There are two main types of para-equestrian sport events – special olympics for the mentally challenged people and Para-Olympics and competitions for the physically challenged pearsons [Kuliński 2006].

Para-equestrian sport has been present on the world's arenas for over 60 years, however it only became an official discipline of FEI (Fédèration Equestre Internationale) on January 1st 2006.

In Poland it is still a relatively new and developing discipline. It has been officially recognized by the Polish Equestrian Federation since January 1st 2007. From that moment the number of riders participating in the local and international competitions is growing progressively [Kamińska 1997, Kikolski 2000].

Para-dressage is the only riding competition available for the physically impaired people in Poland, however, in other countries different para-equestrian sports are open for the mentally and physically challenged pearson such as show jumping or combined driving [Helpertz-Hengst 1997, Engel 2004].

Since the establishment of the Equestrian Association of Disabled People in Warsaw in 2000 the para-equestrian sport has been steadily developing. Seven national competitions have been organized together with six international events and a National Championship.

The aim of this paper was to analyze the results of the particular horse-rider combinations competing in para-dressage in different levels between 2007 and 2008 in Poland, with regard to type of impairment and kind of competition.

MATERIAL AND METHODS

This study was conducted on the material collected between 2007 and 2008 during para-dressage competitions in Poland. The discipline discussed is still in its initial phase of development therefore the amount of material collected is not entirely comprehensive.

The riders competing in para-dressage (13 persons aged between 12 and 37) displayed different types and levels of impairment. In order to protect their personal information they were assigned letters as a form of identification for the research purposes (tab. 1). The riders competed on 9 horses of different breeds aged between 8 and 14 years coming from six centers specialized in para-equestrian sport.

A rider who wants to compete in para-equestrian sports needs to be classified according to his or her functional ability. This ensures that only the riders with similar impairments are competing against each other [http://para-equestrian.info]. The rider is then given a functional profile that indicates the grade in which they would compete – table 2. The following grades are used:

I a – only walk,

I b – walk with short elements of trot,

II – walk and trot,

III – walk, trot and canter,

IV – the riders have to present all the mentioned gaits as well as the lateral movements and a half-pirouette in a trot.

During the competition the horse-rider combination has to perform the following tests:

a) warm-up test or team test, dependent on whether a rider wants to represent Poland in international competitions,

b) individual championship test,

c) freestyle test to music (kür) [http://www.hippoland.pl].

Table 1. Characteristic of analysed riders
Tabela 1. Charakterystyka zawodników objętych badaniami

Rider – Jeździec	Age (years) Wiek (lata)	Sex – Płeć	Level – Poziom	Disability – Niepełnosprawność
A	35	K	I	CP, spastic tetraplegia MPD, niedowład spastyczny czterokończynowy
B	25	K	I	CP, spastic tetraplegia MPD, niedowład spastyczny czterokończynowy
C	16	M	II	Spastic tetraplegia as a result of spinal cord damage at a heights of TH10 (thoratic vertebrae), 2nd grade of spondylitis L5 (lumbar) – S1 (sacral) as a result of traffic accident Niedowład spastyczny czterokończynowy po uszkodzeniu rdzenia kręgowego na wysokości TH 10, kręgozmyk L5-S1 drugiego stopnia, w wyniku wypadku komunikacyjnego
D	14	K	I	Down syndrome, flabbiness Zespół Downa, wiotkość
E	12	M	I	Dandy-Walker syndrom, tetraplegia spastica Zespół Dandy-Walkera, spastyczność czterokończynowa
F	18	K	I	CP, spastic tetraplegia, competitor walks on crutches MPD jednostronne, spastyczność lewostronna, poruszanie się o kulach
G	19	M	II, IV	CP hemiplegia, spastic left side MPD jednostronne, spastyczność lewostronna
H	16	M	II, III	CP, light grade of spastic tetraplegia MPD, niedowład spastyczny czterokończynowy w stopniu lekkim
I	30	K	III	CP hemiplegia, spastic left side, balance disorders MPD jednostronne, spastyczność lewostronna, zaburzenia równowagi
J	22	M	III	CP hemiplegia, spastic right side, right leg is 3 cm shorter MPD jednostronne, spastyczność prawostronna, prawa noga krótsza o 3 cm
K	37	K	III	After poliomyelitis, spastic right side Po chorobie Heinego-Medina, spastyczność prawostronna
L	32	K	IV	Congenital retardation of palms and foots Wrodzony niedorozwój dłoni i stóp
M	22	M	IV	CP hemiplegia, spastic right side, Hemiparesis to a small extent MPD jednostronne, spastyczność prawostronna, niedowład połowiczy w stopniu śladowym

CP – cerebral palsy
MPD – mózgowe porażenie dziecięce

Table 2. Combination of analysed levels of dressage competitions
Tabela 2. Zestawienie poziomów analizowanych konkursów ujeżdżenia

Level Poziom	Kind of program Rodzaj programu			Number of starting competitors Liczba startujących zawodników	Number of starting horses Liczba startujących koni
	warm up rozgrzewkowy	individual indywidualny	free style dowolny		
I	12	9	6	5	3
II	6	6	4	3	3
III	7	8	9	4	4
IV	13	14	12	3	4
Σ	38	37	31	15	14

A 55% rule has been adopted for national competitions for athletes who are not able to receive a satisfactory mark. According to this rule, a rider who scored at least 55% on a national competition in at least 4 warm-up or individual tests in the last two years is not allowed to compete in a lower level [Regulamin rozgrywania krajowych zawodów… 2007].

Competitors in the 1st and 2nd levels are allowed to use moderate voice commands during dressage. A help in reading the program is also allowed. The riders from the 1st to 3rd level compete on a 20 m by 40 m arena, while the athletes from the 4th level on a 20 m by 60 m arena, the latter also applies to National Championships (since it became possible). The riders from the 4th level are also allowed to choose between two bridle types: snaffle bridle or a double bridle [Międzynarodowy regulamin rozgrywania parajeździeckich… 2006]. One horse can compete in a given level not more than twice with two different riders. In the 4th level a horse can only compete maximum twice a day. A horse competing in an event of the importance lower than National Championship can only compete on the arena four times a day at the most [http://www.hippoland.pl]. Just like in classic dressage the judges evaluate the horse's gaits, impulsion, submission, the rider's performance and the quality of dressage movements on a scale from 1 to 10.

This analysis was conducted on all the four levels. The statistical characteristics were divided accordingly to the three tests – warm-up, individual championship and freestyle. The dressage movements for each level were also considered, especially halt, walk, trot, canter, left and right movements and leg yielding. Due to the insufficient amount of research material, each movement had a particular component including required movements from a given program.

The judges evaluations were recorded on the score cards. Each movement could be rated between one and ten with the following scale: 0 – not performed, 1 – very bad, 2 – bad, 3 – fairly bad, 4 – insufficient, 5 – sufficient, 6 – satisfactory, 7 – fairly good, 8 – good, 9 – very good, 10 – excellent [http://www.pzj.pl].

Additionally, after evaluating the dressage movements, points were also awarded for general attributes.

The first attribute considered was the quality of horse's gaits with the special focus on freedom and regularity. The judge's score was multiplied by 3 (the difficulty coefficient). The next attribute was impulsion (flexibility of pace), desire to move forward and

suppleness of the back and engagement of hindquarters. The third attribute was the submissiveness of the horse based on the trust, harmony, lightness and ease of the movements.

Finally, a mark was also awarded for the rider's performance where the following factors were considered: the rider's position (WSP. 2), the seat and correctness and effect use of the riding aids [Regulamin rozgrywania krajowych zawodów… 2007].

For all the errors in required movements penalty points were given: for the first error – 2 points, the second 4 points, the third error equaled to elimination. The final score was provided in percentages.

In the warm-up and individual tests the final score was the sum of the ratings given by all the judges for the dressage movements together with the total for the general attributes multiplied by 100. In the freestyle test (kür) the final score was a sum of points for the dressage movements added to the points for the artistic impression multiplied by a test-specific coefficient. After summing up the score cards the penalties for errors in the required movements were deducted from the total number of points.

The statistical analysis of the results was conducted with Statisctica 6.0. The difference between the average results of the test subjects were determined with the one-way analysis of variance.

RESULTS

Between 2007 and 2008 13 athletes (7 female and 6 male) took part in the national competitions. Eight of them suffered from cerebral palsy (CP), others from one of following impairments: Down syndrome, spastic paresis resulting from an injury, Dandy-Walker syndrome, poliomyelitis and congenital retardation of palms and foots.

1st level is the easiest one in para-dressing owing to the riders' level of impairment as well as the horses' training level. In the discussed period five athletes competed in twenty seven competitions of this level on three different horses.

Two riders competed in 1st level freestyle test (A and B). Their performance differed significantly – rider A got a notably higher total score (6.2 points). A similar situation occurred in warm-up and individual tests – rider A again scored considerably more points. This rider was also the only one to get an average total score for all tests higher than six. Moreover, the difference between the average score of rider A and the ones of other athletes was also significant (tab. 3). The lowest rated competitor was rider D in the individual championship test (5.1 points).

In 2nd level three riders competed on three horses in 16 tests. Two of them suffered from CP (spastic form), one had a spinal cord injury.

As presented in Table 4, rider C scored the most points in all the tests, while rider H was the one with the lowest ratings. In grade II the differences between the competitors in all the tests were statistically significant.

Table 5 shows the general ratings of the competitors from 3rd. Two athletes clearly triumphed in the tests – rider J (CP, right-side spastic hemiplegia, right leg shorter by 3 cm) and rider K (affected by poliomyelitis with right-side spastic hemiplegia). Rider I (CP, left-side spastic hemiplegia, balance disorders) got the lowest ratings in each test. This might lead to a conclusion that the type of impairment is not the only decisive fac-

tor in achieving high scores, the horse preparation and the individual riding talent have a considerable impact on the final performance.

Moreover, the differences between the average scores of particular riders were statistically highly significant.

Table 3. Characteristic of marks of competitors take part in level I
Tabela 3. Charakterystyka ocen zawodników startujących na poziomie I

Rider Jeździec	Stat.	Kind of program – Rodzaj programu		
		warm up rozgrzewkowy	individual indywidualny	free style dowolny
A	n	108	120	148
	min.	5	4	4
	max	8	8	7
	x	$6.1a^{BCd}$	6.2^{EF}	6.2^{J}
	s	0.72	0.77	0.73
B	n	69	72	134
	min.	4	5	4
	max	7	8	8
	x	5.6^{C}	6.1^{Gi}	5.9^{J}
	s	0.84	0.72	0.81
D	n	108	60	
	min.	3	0	
	max	8	7	
	x	5.8^{a}	5.1^{EGh}	
	s	1.03	1.28	
E	n	24		
	min.	4		
	max	7		
	x	5.4^{B}		
	s	0.78		
F	n	24	30	
	min.	4	5	
	max	7	7	
	x	5.6^{d}	5.7^{Fhi}	
	s	0.78	0.61	

A, B, C… – differences significant at $P \leq 0.01$ (in columns)
A, B, C… – istotność różnic przy $P \leq 0.01$ (w kolumnach)
a, b, c… – differences significant at $P \leq 0,05$ (in columns)
a, b, c… – istotność różnic przy $P \leq 0,05$ (w kolumnach)

Table 4. Characteristic of marks of competitors take part in level II
Tabela 4. Charakterystyka ocen zawodników startujących na poziomie II

Rider Jeździec	Stat.	Kind of program – Rodzaj programu		
		warm up rozgrzewkowy	individual indywidualny	free style dowolny
C	n	111	120	210
	min.	4	4	4
	max	8	8	8
	x	6.1 ^{A}	6.3 ^{C}	6.3 ^{E}
	s	0.76	0.71	0.74
G	n	72	78	
	min.	3	4	
	max	8	8	
	x	5.9 ^{B}	6.2 ^{D}	
	s	0.85	0.73	
H	n	33	42	28
	min.	4	4	4
	max	7	7	7
	x	5.2 ^{AB}	5.0 ^{CD}	5.5 ^{E}
	s	0.83	0.86	0.74

A, B, C… – differences significant at $P \leq 0.01$ (in columns)
A, B, C… – istotność różnic przy $P \leq 0.01$ (w kolumnach)
a, b, c… – differences significant at $P \leq 0,05$ (in columns)
a, b, c… – istotność różnic przy $P \leq 0,05$ (w kolumnach)

Table 6 shows the statistical characteristic of the scores achieved by the riders in 4th level. The best one appears to be rider L (hands and feet atrophy), who scored the highest number of points in all three types of tests. The highest average rating was given to him in a freestyle test (6.3), the lowest in a warm-up test (5.9). Two other competitors received slightly lower scores – rider M (CP, right-side spastic hemiplegia, slight spastic diplegia) and G (CP, left-side spastic hemiplegia). Their average scores in warm-up and individual tests were very similar. The biggest difference was visible in the freestyle test results, however from the statistical point of view it was not significant.

Highly significant statistical difference was however noted between competitors G and L in all three types of tests, as well as between competitors L and M in the warm-up and individual test (tab. 6).

All scores under 5 points are considered to be a proof of poor preparation and should become an incentive for more involvement for riders and their trainers since the lowest satisfactory level is 6. The study shows that not all the competitors managed to reach the required level (6 points), and one of the riders (competitor I) in the warm-up test did not

even come close to the average score of 5 points. Only three out of thirteen athletes (A, C, J) managed to score 6 and higher in all the tests. The highest average score (6.4) in all the tests belonged to rider K for the 3rd freestyle test.

Table 5. Characteristic of marks of competitors take part in level III
Tabela 5. Charakterystyka ocen zawodników startujących na poziomie III

Rider Jeździec	Stat.	Kind of program – Rodzaj programu		
		warm up rozgrzewkowy	individual indywidualny	free style dowolny
H	n	39	60	62
	min	4	4	5
	max	6	7	6
	x	5.2 ^{B}	5.5 ^{CDE}	5.5 ^{IJ}
	s	0.63	0.6	0.5
I	n	120	96	189
	min	3	3	3
	max	6	6	7
	x	4.9 ^{A}	5.1 ^{DFH}	5.3 ^{KL}
	s	0.81	0.76	0.75
J	n	170	159	162
	min	2	4	4
	max	7	8	8
	x	6.0 ^{AB}	6.0 ^{EGH}	6.4 ^{JL}
	s	0.79	0.75	0.65
K	n		117	110
	min		3	5
	max		8	8
	x		6.3 ^{CFG}	6.5 ^{IK}
	s		0.81	0.62

A, B, C… – differences significant at $P \leq 0.01$ (in columns)
A, B, C… – istotność różnic przy $P \leq 0.01$ (w kolumnach)
a, b, c… – differences significant at $P \leq 0,05$ (in columns)
a, b, c… – istotność różnic przy $P \leq 0,05$ (w kolumnach)

After a careful analysis of test ratings in all levels, taking into consideration the type of the competition, it was found that the freestyle test was most highly evaluated. The highest ratings in all tests were received by the competitors in the 2nd level. The test with the lowest rating was 3rd level warm-up tests (fig. 1).

Table 6. Characteristic of marks of competitors take part in level IV
Tabela 6. Charakterystyka ocen zawodników startujących na poziomie IV

Rider Jeździec	Stat.	Kind of program – Rodzaj programu		
		warm up rozgrzewkowy	individual indywidualny	free style dowolny
G	n	96	198	110
	min	3	2	4
	max	7	7	8
	x	5.4 ^{B}	5.4 ^{D}	5.9 ^{E}
	s	0.78	0.97	0.85
L	n	492	576	555
	min	3	2	0
	max	8	8	8
	x	5.9 ^{AB}	6.0 ^{CD}	6.3 ^{E}
	s	0.81	0.91	0.88
M	n	108	126	78
	min	1	3	4
	max	7	7	8
	x	5.4 ^{A}	5.5 ^{C}	6.1
	s	1.09	0.84	0.95

A, B, C… – differences significant at $P \leq 0.01$ (in columns)
A, B, C… – istotność różnic przy $P \leq 0.01$ (w kolumnach)
a, b, c… – differences significant at $P \leq 0,05$ (in columns)
a, b, c… – istotność różnic przy $P \leq 0,05$ (w kolumnach)

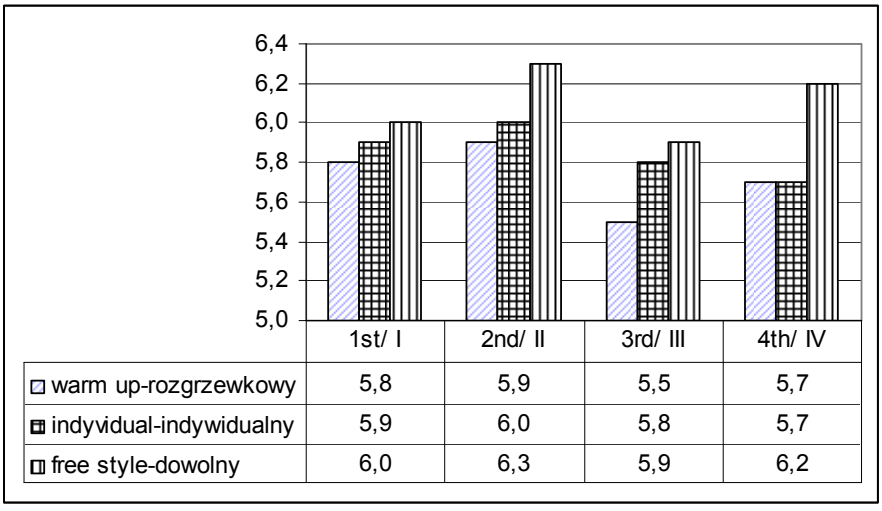

Figure 1. Average value of total notes on each level
Rycina 1. Średnie wartości ocen za przejazdy na poszczególnych poziomach

The freestyle tests are the most difficult part in all levels, however they received the highest ratings in the studied competitions. The reason behind it might be the possibility of choosing the dressage movements that were adjusted to a particular type of impairment. It may also prove that both riders and horses were well prepared for this test.

The para-dressage result is influenced not only by the riders' type of impairment, but also by their preparation and natural riding talent. The most frequent impairment among the Polish competitors was Cerebral Palsy [Krupiński 1995, Bobera and Kobel-Buys 2006].

REFERENCES

Bobera T., Kobel-Buys K. (red.), 2006. Mózgowe porażenie dziecięce. Z doświadczeń trzyletniego programu rehabilitacyjnego. Wrocław.

Engel B.T. (red.), 2004. Terapeutyczna jazda konna II. Strategie rehabilitacji. Kraków.

Helpertz-Hengst C., 1997. Jazda konna dla osób niepełnosprawnych. PWRiL Warszawa.

Kamińska A., 1997. Hipoterapia – jazda konna, rekreacyjna i sportowa dla osób niepełnosprawnych. Mat. konferencji naukowo-metodycznej, 17-19 września 1997, Biała Podlaska.

Kikolski W., 2000. Sport niepełnosprawnych – wyczyn czy rehabilitacja? Kultura Fizyczna 7/8, 28-30.

Krupiński J., 1995. Hipoterapia dzieci z mózgowym porażeniem dziecięcym. Hipoterapia 1–4, 56–57.

Kuliński W., 2006. Holistyczne oddziaływanie hipoterapii na organizm człowieka. Pr. dyplomowa, Podhalańska PWSZ w Nowym Targu.

Międzynarodowy regulamin rozgrywania parajeździeckich zawodów w ujeżdżeniu, 2006. www.fei.org, aktualizacja 1.01.2006.

Regulamin rozgrywania krajowych zawodów w paraujeżdżeniu. I edycja, 2007. www.pzj.pl, aktualizacja 8.05.2007.

http://para-equestrian.info

http://www.hippoland.pl

http://www.pzj.pl

Streszczenie. W Polsce ujeżdżenie jest jedyną dyscypliną jeździecką rozgrywaną na zasadach paraolimpijskich. Badania przeprowadzono na materiale zebranym w latach 2007–2008 podczas zawodów ujeżdżeniowych na terenie Polski, rozgrywanych na zasadach paraolimpijskich. Jeźdźcy, o różnym stopniu niepełnosprawności, startowali na 9 koniach różnych ras i typów w wieku od 8 do 14 lat, pochodzących z 6 ośrodków zajmujących się parajeździectwem. W celu wyrównania szans w rywalizacji zawodnicy zostali odpowiednio sklasyfikowani, przydzielono im również odpowiedni profil funkcjonalny oraz poziom, na którym mogli startować. Zawody rozgrywane były na 4 poziomach trudności, a zawodnicy wykonali następujące programy: rozgrzewkowy, indywidualny i dowolny. Każda figura oceniana była w skali od 0 do 10 pkt. Analizując oceny za przejazdy na wszystkich poziomach, z uwzględnieniem rodzaju konkursu, stwierdzono, iż najwyższe noty uzyskały programy dowolne. Natomiast we wszystkich konkursach najwyższe oceny przyznane zostały zawodnikom za starty na poziomie II. Na wynik w ujeżdżeniu paraolimpijskim istotny wpływ miał nie tylko rodzaj schorzenia zawodnika, ale także jego przygotowanie treningowe oraz wrodzone predyspozycje. Najczęstszym schorzeniem występującym u polskich zawodników startujących w tego typu zawodach jest mózgowe porażenie dziecięce.

Słowa kluczowe: niepełnosprawność, parajeździectwo, ujeżdżenie, poziomy trudności