# THE AVAILABILITY OF INNOVATTIVE OFFER FOR DISABLED SKIERS IN SKI RESORTS IN THE REGION OF BIELSKO BIAŁA

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#### Abstract

Purpose – The purpose of the paper is the assessment of the availability of innovative offers for disabled ski resort customers.

Methodology – Empiric data was collected via a diagnostic survey (questionnaires and interviews). The basic research was carried among the employees of ski centres using questionnaires and it was supplemented with questionnaires and surveys with disabled persons. Findings – Obstacles in Alpine skiing met by disabled persons are financial factors but also the absence of the innovative solutions, special infrastructure, equipment, qualified trainers facilitating winter sports for disabled skiers. The information in ski resorts is insufficient. The key problem is the mentality - few resorts are supportive for disabled skiers.

Originality of the research – Currently, most of the research focused on the behaviour of professional disabled Alpine skiers. The paper investigates innovations and offers in ski resorts for disabled recreational skiers. Based on the example of Bielsko Biała poviat, suggestions are created of country-wide innovations for Polish ski resorts to adjust them to the needs of disabled persons currently excluded from recreational skiing due to lack of the appropriate infrastructure. Thanks to such innovations, the Bielsko-Biała poviat could become a leader in this market niche in Poland and in the transborder region.

Keywords disabled person, innovative ski resort, ski resort

## INTRODUCTION

The problem of disability is a world-wide social phenomenon. An increase in the number of people with disabilities is observed in all countries, also in Poland. The meaning of active forms of the social protection grows. The most effective form is physical rehabilitation and sport, extreme, para-olympic and purely recreational one.

Physical activities in their recreational form represent a key role in the active rehabilitation of disabled persons. It supports social integration and improvement of life quality. Disabled persons who practice any sports as recreation must not be exposed to any health-risk. Therefore, it is necessary to prepare the trainers and guides to run the classes. Barriers of architectonical and technical character have to be removed in the environment, in which recreational activities are performed to facilitate the activities (Łobożewicz 2000, 120). The growing number of disabled skiers increases the significance of the infrastructure and adjustments, which need to be

introduced. Attractive innovative solutions need to be introduced to meet the needs of customers with impairments.

## 1. DISABILITY AND THE DISABLEDD SKIER

In each society, there is a group of people who were born or acquired certain physical or / and mental disabilities. The impairments may be inherited or born with or acquired a result of illnesses, accidents or improper life style. Up to day, there is no cohesive and coherent definition of disability in the existing literature dedicated to topics of disabilities. Statistical data confirms that disabled people constitute a large proportion of society. The prognosis of the increasing number of people in this group is also confirmed by research (Szewczyk 2015, 370). Currently, in most of European countries, disability is defined in relation to the barriers met by a disabled person in every-day life (Najmiec 2007, 5).

International Classification of Impairments, disabilities and handicaps accepted by World Health Organisation (WHO) considers the fact that the results of the lowered fitness can have various scale and manifest through (Demczyszak 2004, 239):

- Difficulties if the disabled person lives with problems caused by lower ability
- Limitation when, due to the limited abilities, a disabled person has to limit his or her life activities to the forms available to this person,
- Prevention when the disabled person cannot undertake the life activity.

The term disability encompasses impairments, activity limitations, and participation restrictions, and denotes the negative aspects of the interaction between an individual (with a health condition) and that individual's environmental and personal context (Gold 2014, 174).

WHO has introduced the following definitions of disability taking into consideration the health condition of the person impairment, disability and handicap (Jedlińska 2012, 75-84 and Urbanowicz 2012, 443).

Physical disability is defined as a permanent, morphological or functional impairment of a locomotor system (musculoskeletal system including bones, muscles, joints or motion systems), which due its specifics and scale complicates or prevents usage of this system in undertaking life activities whereas the level of disability can vary (Koper and Tasiemski 2013, 112). This type of disability is represented by a vast group of various injuries and diseases including amputations and inborn lack of limps, paralyse or paresis and many other impairments created by accidents or illnesses of spinal cord, various forms of the cerebral palsy, muscular or joint diseases etc. (Sobiecka 2011, 238).

Polish act about vocational and social rehabilitation as well as employment of disabled people defines three degrees of disability (Act from 27th August 1997 about vocational and social rehabilitation of disabled people and their employment):

- Slight degree of disability
- 2. Moderate degree of disability
- 3. Considerable degree of disability.

The Constitution of Poland pledges equal and unrestricted access to the culture, science and healthcare to each citizen. This includes disabled persons regardless the type of impairment. However, this group is a social minority and this is the likely the main reason of discrimination, intolerance or simply insensitivity and lack of understanding and sympathy (Chojnacki 2008, 9). Up to recent times, disabled persons were practically imprisoned at their homes and limited to the simplest occupations. In Poland, the double leg amputation excluded the person from skiing. Nowadays, the situation differs strongly, also in the area of sports and of skiing. Currently, skiing can be practiced with impairments of locomotor system of various nature and the level of complexity, as well as persons with hearing and sight impairments or those with the intellectual deficit (Blachura 2006, 93). It has to be stressed that the sport type has to be chosen and adjusted to the disabled person with a concern for his or hers psychophysical abilities and, at the same time, it should associated appropriately with a type of impairment so it fulfils its rehabilitation functions (Pieszak 2012, 135).

In Poland, skiing is hardly exercised by disabled persons as a form or leisure or a rehabilitation therapy; although many Paralympics enjoys significant achievements on international level (Blachura and Woźnica 2010, 244).

The most recent Paralympic Games proved that there are many champions among Polish sportsmen, like the silver medal won by Igor Sikorski in Paralympic Alpine skiing slalom sitting in Tarvisio in Italy. Before this success, Sikorski stood on the top of the podium in World Cup in Kühtai, Austria. (Lipiński 2017).

Regarding the type of disability, several skiing disciplines are distinguished. The basic classification is skiing sitting or standing position. Standing skiers would slide on two or on a single ski (monoskiing). In the case of such need, additional facilitation is used, e.g. outrigger skis where ski poles are additionally equipped with small skis on the end. Special prosthesis, belts, or mergers of ski shovels could be also used to improve the balance control and to increase the independence of a disabled skier.

These skiers who cannot ski standing due to their disabilities have a wide range of specialised equipment to allow skiing in a sitting position. This equipment is chosen and adjusted to the needs of the individual disabled person and his or her impairment to maximise the potential of such skier.

Regarding the type of disability, the following types of equipment can be distinguished (Jonas 2007):

## 1. Stand up skiers

- 3 track a skier skis on one ski holding two outriggers with their hands for extra balance and stability (common disability associated with it is one leg amputation),
- 4 track a skier skis on two skis holding two outriggers with their hands for extra balance and stability (common disability associated with it is very low spinal cord injury or balance problems),
- visually impaired,
- deaf,
- persons with learning difficulties

## 2. Sit down skiers

- bi-ski —a skier skis in a crouched position in a special sitski with two skis (more stable than mono-ski) and can ski independently holding two outriggers with their hands for stability, speed and direction control, or when a skier is not independent and skis with a ski instructor who controls the direction and speed (common disability associated with it is high spinal cord injury, CP, MS, severe learning and physical difficulties),
- mono-ski a skier skis in a crouched position in a special sitski with one ski
  and holding two outriggers with their hands for stability, speed and direction
  control (common disability associated with it is spinal cord injury, spina
  bifida, double above knee amputation, knees problems and legs deformations).

## 2. INNOVATIVE SKI RESORT

A tourist resort is a tourist town or village characterised by high level of tourist infrastructure and a wide scope of services related to the tourist traffic (Kurek 2008, 28). Tourist resorts encompass winter sport sites (ski resorts), spas, tourist villages (Ibid).

A ski resort is one of the types of tourist destinations distinguished based on the criterion of an option to spend the time by tourists. English language literature uses two concepts (Żemła 2003, 60):

- a ski area referring to a single complex of ski lifts and trails operating under one management and covered by one pass; and
- a ski resort in the meaning of a single village or town or a group of them, where a ski area is located.

In a Polish language, a bigger number of concepts exist, eg. Centre, grounds, terrain, station, municipality or ski complex. The precise definitions of them are not determined. The best equivalent of a ski resort seem to be a ski centre; albeit, this description is also used for a complex of ski lifts and a ski settlement. A concept of a ski resort is understood as a complex of the infrastructure for skiers together with the

complementary service facilities located in the direct neighbourhood together with entire social, economy and natural environment. This approach emphasizes complementary and auxiliary nature of the ski services, without which the resort would not have the capacity to admit tourists or without which this abilities would be strongly limited. This definition of a ski resort accepts English term "ski area" as its equivalent; while the town or village where the ski infrastructure is located would be called a ski resort (Żemła 2003, 59).

An essential aspect of the definition is the classification of a ski settlement where the services for skiers are located as a local government. In Poland, the principal unit of Polish local administration is gmina, which can comprise of several municipalities. On the area of a gmina, multiple ski centres and resorts can be located. The local governments are responsible for the ultimate shape of a tourist product in the reception area. The local government should take a holistic approach to the touristic offer of its area. It should play a role of an integrator of the activities of the tourism and paratourism sectors M. Woźniczko distinguished the following elements of the paratourism infrastructure: transport, technical infrastructure gas, water, sewage, electricity), telecommunication and internet access, catering and public buildings, postal, healthcare and police buildings, banks, culture centres and libraries (Woźniczko 2014, 76) and it ought to create and implement a consistent concept of the tourist product. Principally, this concept should be accepted and approved by the private sector meaning stakeholders who deliver the offer. Therefore, it is crucial to maintain the continuous process of consultation between the representatives of all stakeholders involved in the creation of the local tourism product.

The best method is to establish a Local Tourism Organisation, which would integrate public and private stakeholders involved in the development of the tourist reception area (Żemła 2003, 59).

The development of the tourist traffic and its various generated a need to create innovative, specialist objects dedicated to the specific conditions required for practicing particular sport discipline, including Alpine skiing. Nowadays, skiing is the primary function of the ski resort driving the decision to build or to develop the centre. The basic factor limiting the size of the ski resort is the capacity of the skiing and snow-boarding grounds. According to the French approach presented in the document published in "Notes et etudes documentaires" the most general requirements related to the utilisation of the ski area are as follows (Kunysz 2010, 374):

- 1. comprehensive and harmonised development (availed by the ownership of the grounds)
- 2. the appropriate facilities in each separate area
- 3. harmonised connection of all areas to unified the team and to avoid redundant communication processes
- 4. transport capacity of lifts assuring continuous services for skiers and snowboarders in lower and other parts of the skiing area
- 5. the best possible equipment of the best ski trails (slopes)
- 6. availing transport for tourists for siteseeing (cable cars)
- 7. improvement of the ground features for simplification and the increase of their qualities.

Winter infrastructure can be placed in these areas where the natural features create convenient conditions as well as in these parts where lack of the features forces the creation of artificial conditions adjusting the environment for winter usage. For skiing, apart from the infrastructure, the geographical environment has a key meaning: the ground features, the slope gradient, length and the exposure of slopes, the land covers (vegetation, buildings) and climate conditions.

For many years, increase in physical activities of societies is observed worldwide, including disabled persons, which carries health, social and economic implications. The markets of tourism and sport products are characterised by strong complementarity, extreme competitiveness and innovativeness related to it.

Innovation is not a new phenomenon. It is as old as economic activity itself, in increasingly competitive world, product cycles are shortening and the pressures – or perhaps, more accurately, the clamour to – 'innovate or die' are becoming incessant. (Hall and Williams 2008, 1).

Etymology of the term "innovation" relates to the Latin "innovare" meaning to renovate, improve or to introduce new products or processes (Ciok and Dobrowolska-Kaniewska 2009, 10). Innovation is thus the finding of a new solution for issues within a company, region or other entity (Zontek 2015, 490).

In the literature many definitions of innovations can be found as well as numerous detailed typologies of innovations; however, only a few of them will be presented in the text due to the limitations of the paper length.

P. Schumpeter defined innovation as "new combinations" of existing resources. (Fagerberg 2006, 1). Innovations may also be classified according to the type. Schumpeter distinguished between five different types: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business (Ibid). Innovation is the generation, acceptance and implementation of new ideas, processes, products or services, and also the capacity to change and adapt (Lopes, Abrantes and Kastenholz 2014, 151). Next important definition of innovation is the one given by the OECD's Oslo Manual, according to which an innovation is "the implementation of a new or significantly improved product (good or service), or a process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (Oslo Manual, 2005, 48).

There are four types of innovation (Nagy 2013, 43):

- product innovation,
- process innovation,
- marketing innovation or the implementation of a new marketing method,
- organisational innovation defined as the implementation of a new organizational method in the firm's business practices, workplace organization or external relations.

A.M. Hjalager amended another type of innovations, i.e. institutional ones (Hjalager 2010, 1). The topic of innovations offered by ski resort in skiing is widely discussed in English literature, e.g. in the works of Flagestad and Hope (2001), Pechlaner and Fuchs (2002), or Paget, Dimanche Mounet. (2010).

A ski resort is a tourist destination. It is indeed an area of consumption configured for a targeted service type: the ski tourist product (Flagestad and Hope, 2001). Polish ski resorts prove more and more often their great potential and professionalism in the reception of skiers offering at the same time a wide range of leisure activities – starting from day-long slides in gondolas to relax in the spa, thermal baths or public events organised by companies of the lead winter tourist brands. The tourist who comes into the resort must be able to find accommodations, food services, equipment rentals, skiing lessons, ski passes, and would also like to do other activities such as shopping or going to the movie theatre. (Paget, Dimanche and Mounet 2010, 831). Skiers demands are growing and they expect lower prices and a prompt availability of the products and services; hence, certain problems occur in organising the service processes, which would satisfy such demands. The solutions are sought to compensate the effort made to gain the customers and which will not require increase of employment.

The capacity of ski lifts is a significant element of the effectiveness of the services.

Due to the safety reasons, the capacity of ski lifts has to be adjusted to the capacity of the trails, their number and width (Berbeka 2010, 217). Consequently, innovations were oriented on increase of the comfort and the safety of skiers by introduction of the soft, padded and heated seats, usage of acrylic glass wind shades, pneumatic security systems to protect children from the fall, conveyor belts for transport and logistics (Ibidem, 217).

Extending the activities of ski resorts to summer season needs to be considered a major process innovation.

The literature of this topic describes many innovative ideas and solutions in the area of the product or services, which enhance the offer and the scope of available experiences. Thanks to them the value added is offered to the customers.

Among others, the following innovations can be listed (Berbeka 2010, 218): fun parks, snowtubing, dog sledding, navigation games, slalom trails with time recording, Alpine trails with the speed recording, snow-bikes, post-ski events and leisure and many more product offers creating experiences for tourists, which relate to the economy of experiences.

A noteworthy innovation extending the season and improving the quality of trails is introduction of the artificial snow system. Thanks to the modern technologies, innovative system of on-line booking was possible, booking and ordering of the equipment in the ski-rental, which shortens the time of the service, pass return machines, introduction of a joint ski-pass for several ski centres as well as free-of-charges routes for tourists operating between the ski centres covered by the joint ski-pass. An innovative system Skidata, which registers the access of individuals to the

particular object, is a magnificent database delivering information about skiers' behaviours and habits, including the hours of activities, start places, ski lift usage, arranged breaks or the length of the time spent in the centre. This is the tool allowing improvement of the ski centre management, adjusting the infrastructure and operations to the tourists' visits. Nowadays, usage of various transport media to reach the place of skiing is an innovation – snowmobiles, snow-grooming machines and helicopters are in use.

## 3. METHODOLOGY OF THE STUDY

According to W. Dutkiewicz, the purpose of a research is to increase the knowledge about persons, things and phenomena being objects of the research (Dutkiewicz 1996, 31). The object of the research will be defined as all things, phenomena and processes, which they are subject to and to which we form the research questions (Maszke 2004, 44).

As by the above definitions, the object of the research is a community of disabled persons practicing the skiing; the purpose of the research is the assessment of the availability of the innovative ski resorts for disabled persons. In relation to the definitions above, the main problem of the research is if the innovative ski resorts of the Bielsko-Biała poviat are adjusted to services for disabled persons. The following hypothesis was assumed in relation to the research problems: innovative ski resorts of Bielsko-Biała poviat are available to disabled persons practicing Alpine skiing.

The research concentrated particularly on:

- identification of the ski resorts of the Bielsko-Biala poviat and the city
- defining the nature of innovative ski resorts
- identifying disabled persons, including disabled skiers
- characterising the availability of the ski resorts to the disabled skiers
- recognition of the awareness of the meaning of adjustment of the buildings ski centres to the needs of disabled persons.

Regarding M. Łobocki's classification of research methods, three methods were chosen:

- Literature study with the aim to establish the state of knowledge and unawareness in the certain field of science as a base for further scientific investigations. The nature of disability and the nature of a disabled skier as well as the nature of innovative ski resorts for disabled are described in subsection chapter 1 and chapter 2.
- The diagnostic survey, which basic function is collecting information about the problems interesting for the researcher as a result of verbal relations with the research subjects called responders (Łobocki 1990, 115).
- The observation thanks to the fact that the author spends time actively on the slops of poviat of Bielsko-Biała, which allowed her to acquire a thorough knowledge of the place and the infrastructure.

The area of the research performed was the poviat of Bielsko-Biała.

The research carried in December 2016 and January 2017 covered:

- All ski centres of the poviat of Bielsko-Biała –. The study was carried out using the questionnaire method by using questionnaires, surveys and interviews. The survey questionnaire consisted of 6 parts: outside areas / surroundings of the buildings, catering area, complementary services, sanitary facilities, architectural barriers and general remarks. Questionnaires were distributed to the marketing departments of chosen ski resorts while the technical managers were interviewed. The interviews constituted the complementary part for the questionnaires.
- A group of 20 disabled skiers of various levels of disabilities using the ski centres in the area of the city of Bielsko-Biała and the poviat were surveyed. To identify the contemporary situation in the innovative ski resort as a tourist destination, empirical research was carried out using a short 6 question survey based on Likert scale and with one open question with the purpose to investigate the expectations of disabled persons when choosing an offer of a ski resort. 20 questionnaires were distributed among random responders on the pists. All skiers participating in the research were impaired of hearing and three of them were using wheelchairs. The responders were leisure skiers.

The summary of the collected material allowed to formulate conclusions presented in the further part of the paper (Table 1) and (Table 2)

Table 1: The offer of innovative ski centre of the city of Bielsko-Biała and the poviat of Bielsko-Biała

| THE OFFER OF SKI RESORTS                                                       | ANSWERS |  |  |  |  |
|--------------------------------------------------------------------------------|---------|--|--|--|--|
| The number of parking speces dedicated to disabled persons                     | 6       |  |  |  |  |
| The distance from the parking to the place of ticket stand (tills) in meters   | 5-250m  |  |  |  |  |
| The path from the parking space to the tills is:                               |         |  |  |  |  |
| Steep, up the hill                                                             | -       |  |  |  |  |
| Mild up the hill                                                               | -       |  |  |  |  |
| Mild and straight                                                              | 50%     |  |  |  |  |
| Mild down the hill                                                             | 25%     |  |  |  |  |
| Steep down the hill                                                            | 25%     |  |  |  |  |
| The path from the till to the ski lifts:                                       |         |  |  |  |  |
| Steep, up the hill                                                             | 25%     |  |  |  |  |
| Mild up the hill                                                               | -       |  |  |  |  |
| Mild and straight                                                              | 50%     |  |  |  |  |
| Mild down the hill                                                             | 25%     |  |  |  |  |
| Steep down the hill                                                            | -       |  |  |  |  |
| Does the lift allow the transport of persons with physical disabilities? (yes) | 100%    |  |  |  |  |
| Are the steps outside the centre secured with an anti-slipped surface? (yes)   | 75%     |  |  |  |  |
| What is the distance from the lift to the carvery area in meters?              | 5- 250m |  |  |  |  |

| THE OFFER OF SKI RESORTS                                                                                  | ANSWERS  |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------|----------|--|--|--|--|
| The path from the ski lift to the building / the carvery area is:                                         |          |  |  |  |  |
| Steep, up the hill                                                                                        | 25%      |  |  |  |  |
| Mild up the hill                                                                                          | -        |  |  |  |  |
| Mild and straight                                                                                         | 50%      |  |  |  |  |
| Mild down the hill                                                                                        | -        |  |  |  |  |
| Steep down the hill                                                                                       | 25%      |  |  |  |  |
| Is the carvery area equipped with the driveway for the wheelchairs?                                       | 25%      |  |  |  |  |
| Are there sanitary facilities for disabled in the proximity of the carvery                                | 50%      |  |  |  |  |
| area?                                                                                                     |          |  |  |  |  |
| Is the rental of equipment for disabled persons available?                                                | 0%       |  |  |  |  |
| Is there a first aid stand in the area of the ski centre?                                                 | 25%      |  |  |  |  |
| Are there ski instructors trained to work with disabled persons employed in                               | 25%      |  |  |  |  |
| the centre?                                                                                               |          |  |  |  |  |
| Is there a possibility to organise trainings for disabled persons in the                                  | 100%     |  |  |  |  |
| centre?                                                                                                   |          |  |  |  |  |
| Are the sanitary facilities equipped with railings for the disabled persons?                              | 25%      |  |  |  |  |
| Is it possible to open the door of the sanitary facilities in case of an                                  | 25%      |  |  |  |  |
| emergency?                                                                                                | 250/     |  |  |  |  |
| Are the sanitary facilities equipped with sound system?  What architectural barriers exist in the centre: | 25%      |  |  |  |  |
| ı                                                                                                         | 75%      |  |  |  |  |
| Stairs or steps                                                                                           | 75%      |  |  |  |  |
| High thresholds                                                                                           |          |  |  |  |  |
| Absence of the lift                                                                                       | 75%      |  |  |  |  |
| The doors are not adjusted for the use by disabled persons                                                | 75%      |  |  |  |  |
| Lack of railings in the transport corridors                                                               | 75%      |  |  |  |  |
| Lack of anti-slippery surfaces on the floors                                                              | 75%      |  |  |  |  |
| Lack of colour and texture solutions to facilitate orientation in the                                     | 75%      |  |  |  |  |
| environment                                                                                               |          |  |  |  |  |
| The height of the tills not adjusted for persons with disabilities                                        | 75%      |  |  |  |  |
| Is the centre adjusted to hold the events or competitions for disabled persons?                           | 100%     |  |  |  |  |
| How often during the year are the sport competitions for disabled persons held during a year?             | 1-5 razy |  |  |  |  |

Source: Based on the author's own research.

Regretfully, the research confirmed the opinions of disabled skiers: the ski resorts are absolutely not adjusted to admit disabled skiers.

Two of the resorts included in the research did not arrange the parking places destined for the disabled persons, one of the centres has only one such parking space while the ski centre modernised for the season 2016/2017 offers 5 places for disabled. Analysing the distance from the parking space to the ticket stands (tills) it can be stated that only two centres meet the conditions for the disabled persons; 75% are equipped in gondolas perfectly well adjusted for disabled persons and one centre operates exclusively T-bar lifts, which can be used by persons with a small level of disability. In majority of the examined centres, the steps are secured with anti-slippery surfaces. The distance to the carvery areas is, depending on the centre, from 5 to 250 meters but only one centre has a special driveway for disabled persons. Only two centres are equipped with the toilets

for disabled. Unfortunately, in three of the centres included in the study architectonical barriers exist such as steps, threshold or the absence of lifts or railings of the communication corridors. According to the owners' declarations, all centres are prepared for holding sportive competitions and events, however such events are sporadic; similarly the number of disabled skiers is low, although – as the research shows, they are waiting for innovative solutions availing skiing slops to them.

Table 2: The offer of innovative ski centres – opinions of disabled recreational skiers

| The offer of innovative ski centre – opinions of the disabled recreational Alpine skiers (in %) |                   |           |               |                  |                  |  |  |
|-------------------------------------------------------------------------------------------------|-------------------|-----------|---------------|------------------|------------------|--|--|
|                                                                                                 | Very<br>important | Important | No<br>opinion | Not<br>important | Of no importance |  |  |
| The distance from<br>the parking to the<br>place of ticket<br>stands                            | 90                | 10        |               |                  |                  |  |  |
| Type of lifts                                                                                   | 75                | 25        |               |                  |                  |  |  |
| Possibility of rental of the equipment                                                          | 70                | 10        | 20            |                  |                  |  |  |
| Possibility to use the support of the employees                                                 | 15                | 25        | 20            | 30               | 10               |  |  |
| Possibility to ski<br>with an instructor                                                        | 60                | 15        | 25            |                  |                  |  |  |
| A presence of the first aid stand                                                               | 25                | 15        | 25            | 20               | 15               |  |  |

Source: Based on the author's own research.

All surveyed persons were male; more than 45% of those surveyed were from 31 to 45 years old, 30% where people from 46 to 60 years old, 20% were 18 to 30 years old and 5% were people above 60 years old.

For majority – for 18 of 20 surveyed persons – the distance from the parking to the place of ticket stands is the most important factor. Similarly, for the majority of 15 persons the type of lifts is very important and for 14 persons of 20 possibility of the rental of the equipment is very important. As for the latter, the very high prices of the equipment, which often prevent from skiing, most probably inspired the answers. Also majority of 12 persons considered a possibility of skiing with an instructor as very important. A presence of the first aid stand in the ski resort appeared to be not very important factor. Finally, only 3 surveyed persons declared a strong wish to use the support of the employees and these were persons with a higher level of disability for whom the help in using lifts, cable cars and other equipment is particularly significant.

The research confirmed that, on the pists, the disabled skiers expect patient, trained lift operators instructors trained to work with a disabled person, instructors who can teach to ski on the equipment for disabled, the centres adjusted to the needs of disabled persons, a special equipment they can afford and the ski equipment dedicated to people who use wheelchairs on the daily basis.

## CONCLUSION

Alpine skiing is a sport discipline, which allows the direct contact with the nature, brings vast aesthetic experiences and delivering intense positive emotions. This is one of the most popular winter sports preferred by persons fully fit as well as by these with impairments. In Poland this is still an exclusive sport for elites. In the resorts covered by the research, recreational skiing is in practice unavailable. The main problem is the absence of facilitations allowing to ski. High costs of the specialist equipment is another strong barrier, similarly as the lack of ski equipment rental operating in the ski resorts, lack of trainers and instructors and lack of events addressed to the segment of the disabled persons. The analysed resorts expressed the will to admit disabled persons – after the earlier arrangements the employees can help the disabled customers and lead them to the centres but this creates a social barrier. A disabled skier should feel independent from the moment of the purchase of the ticket and on the very slop and the resort infrastructure should not create a disappointment and difficulties and it should not discriminate anyone.

Therefore, in the ski resorts disabled persons exercising winter sports and skiing for the leisure can be spotted very rarely despite of the fact that any physical activity is an important element of the rehabilitation and of the return to the regular social life.

The analysed ski resorts are far from the level of famous Alpine resorts offering a perfect innovative infrastructure to the disabled skiers. It can be hoped that the modernisation of the existing and construction of the new ski resorts planned in the analysed area for the foreseeable future will encompass the needs of disabled skiers such as dedicated parking with spaces for disabled persons, wider driveways, carvery area, adjusted sanitary facilities, conveyor belts, magic carpet conveyor, safe ski lifts, lifts in the restaurants and many more.

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