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ORIGINAL ARTICLE

Barriers to development and expansion of adaptive physical activity and sports for individuals with a physical disability in sports clubs and centres

Barrières au développement et à l'expansion d'activité physique et sportive adaptée pour personnes en situation de handicap physique en centres et clubs sportifs

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Activité physique ;
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Summary

Aims. – Physical activity has shown to be a useful tool in rehabilitating motor deficiencies among individuals with a physical disability. However, when patients are discharged from in-patient rehabilitation, their physical activity levels tend to drop. This is partly due to a lack of opportunity to be physically active through adaptive physical activity and sports (APAS) programmes within communities. This study aimed to identify reasons which limit the development or expansions of the APAS offer, in order to emit guiding points as how these could be overcome.

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KEYWORDS

Physical activity;
Rehabilitation and
re-education;
Physical disability

Methods end results. — An online survey was completed by 330 different sports clubs and centres in Belgium. Several barriers were identified, including lack of demand from potential candidates and lack of funding for these activities. However, despite these barriers, 44% of the sports clubs and centres reported accommodating individuals with a physical disability nonetheless, and 17% reported offering APAS programmes. There is therefore potential to develop APAS sessions in inclusion with individuals without a disability. Communication between different stakeholders within the sports community, and with health professionals, is urgently needed to improve collaborations.

Conclusion. — Similarly, partnerships with rehabilitation centres and hospitals should be formed in order to enhance visibility of APAS and boost recruitment of participants. Finally, health professionals should recognise the vital role they play in relaying information to their patients concerning leisure-time physical activity's benefits, safety and opportunity in their community.
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Résumé

Objectifs. — L'activité physique est un outil important dans la réadaptation et rééducation des fonctions motrices des personnes en situation de handicap physique. Cependant, les patients ont tendance à diminuer leur niveau d'activité physique après la phase d'hospitalisation et une fois qu'ils entrent en phase ambulatoire. Cette baisse d'activité physique est en partie due à un manque d'opportunité de participation à des activités physiques et sportives adaptées (APSA) dans les communautés. Cette étude avait pour objectif d'identifier différentes barrières au développement et à l'expansion de l'offre APSA, dans le but final de pouvoir émettre des lignes directrices afin de surmonter ces barrières.

Méthodes et résultats. — Au total, 330 différents clubs et centres sportifs en Belgique ont répondu à un questionnaire en ligne. Des barrières, telles qu'un manque de demande de la part de candidats potentiels et un manque de financement pour ce type d'activité, ont été identifiées. Malgré cela, 44 % des clubs et centres sportifs affirment accueillir des participants en situation de handicap physique, et 17 % affirment avoir une offre de programmes d'APSA. Développer des séances APSA en inclusion avec des participants valides représente donc un potentiel trop peu exploré. De plus, la communication entre différents intervenants de la communauté sportive et les professionnels de la santé pourrait être encouragée pour améliorer toutes collaborations.

Conclusion. — Des partenariats avec des centres de réadaptation et des hôpitaux pourraient également être mis en place afin d'accroître la visibilité de l'APSA et d'augmenter le recrutement de participants. Enfin, les professionnels de la santé devraient reconnaître le rôle vital qu'ils jouent dans le relai d'informations concernant les bénéfices de l'APSA et les opportunités d'APSA dans les communautés auprès des patients en situation de handicap physique.

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1. Introduction

Substantial amounts of research have demonstrated the positive physical and psychosocial impacts that engaging in regular physical activity (PA) has on adults [1–3]. Likewise, much research has looked at the safety and effect of physical exercise among individuals with a physical disability. Authors worldwide seem to reach the conclusion that PA decreases disability progression, rehabilitates function and motor symptoms, and improves physical fitness [4,5]. Among this population, it seems PA can truly serve as a therapeutic tool [6,7]. In consequence, the World Health Organisation (WHO) recommends all adults between eighteen and 64 years old to engage in at least 150 minutes of moderately intense to vigorous PA, in bouts of minimum ten minutes, per week [8]. However, about 30% of the global adult population do not seem to meet these levels [9] and levels of PA further drop among those with a physical

disability [10]. Indeed, research shows that after the onset of acquired physical disability, individuals tend to significantly augment sedentary time and reduce time spent in both moderately and vigorously intense PA [11].

It is thus of utmost importance, from a public health perspective, to increase levels of PA among adults. A vital step towards achieving this is to enhance opportunity and access to PA [12]. While much effort has been placed in reaching this goal for individuals without disability, the same cannot be said for those with a disability. Indeed, worldwide, adaptive physical activity and sports (APAS) opportunities still remain poor, despite the WHO's call for equality in opportunity to participate in PA [13].

Indeed, research shows that the European APAS offer still has much room for improvement. In Portugal, Sà et al. found that within a group of 24 individuals with a spinal cord injury, only two reported the presence of available sporting activities in their area [14]. A mere 6 hours of sports sessions specific for individuals with a physical disability are

organised in the Grand-Duchy of Luxembourg on a weekly basis [15]. In Norway, only 13 of 36 sport-federations reported to offer APAS programmes [16]. Similarly, poor APAS offers were reported in North America, as Rimmer et al. demonstrated that most fitness facilities in USA still lacked accessibility for individuals with disabilities [17], while Fullerton et al. found only 29% of fitness facilities located in Toronto offered some type of fitness program specific to individuals with a disability [18].

In consequence, individuals with a disability have difficulty getting involved in leisure-time PA and tend to adopt sedentary lifestyles once they are discharged from inpatient rehabilitation [19]. Continued action is thus needed to improve the APAS offer worldwide. However, in order to reach this goal, it is vital to identify barriers which limit the development and expansion of the current offer. No research has thus far investigated this.

The present study consequently aims to identify barriers to the expansion of the current APAS offer for individuals with a physical disability. Potential solutions to these barriers will then be emitted in order to stimulate further growth in this area.

2. Materials and methods

This report was written in accordance to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) guidelines [20]. The study was an online survey, closed to a target sample made up of sports clubs and sports centres associated to the “Administration de l’éducation physique, du sport et de la vie en plein air” (ADEPS). The ADEPS is the governmental body responsible for sports in the French-speaking community of Belgium. In 2018, 17 sports centres and 7274 sports clubs were affiliated to the ADEPS [21]. Ethical approval was not necessary for this study as it did not include personal human data, as assured by the Ethical Committee of the University of Louvain. All respondents were made aware of the survey’s experimental nature, its aim as well as the research team responsible for data collection and handling, prior to answering any question.

A questionnaire was specifically designed for this study, using the commercially available software “SurveyMonkey”, as it allows to create intricate internet-based surveys with adaptive questioning based on the subject’s answers. Moreover, this software ensures data protection by prohibiting access to the available answers to any third party. All authors of this paper were implicated in the development process. Six outside researchers, with experience in the domain of APAS, tested the survey’s functionality. Modifications were made following their review. The final version, containing 17 items, was approved by all involved parties. Estimated time of completion was seven minutes. The order of the items was not randomized and was identical for all respondents. The questionnaire can be found on <https://fr.surveymonkey.com/r/WVLC6J9> or in Appendix 1.

The survey was not advertised publicly and survey access was limited to individuals who had received the survey’s URL by mail. For sports centres, identified on the ADEPS webpage, the first contact was made by phone call, where LD explained the study’s aim and nature. If agreed upon,

the URL of the online questionnaire was transmitted to the subject by email. This process had to be altered for sports clubs as there were over 7000, and limited resources made it difficult to contact each of them individually. However, all these sports clubs are affiliated to 61 ADEPS sports federations, identified on a publicly accessible list on the ADEPS webpage. The sports federations were thus contacted by phone where LD explained the aim and nature of the survey, and asked the sports federations to relay the questionnaire’s URL, sent by mail, to the sports clubs members of the federation.

Participation remained voluntary and no incentive was offered. Reminders to participate were sent on one occasion, via mail, one month later. Upon opening the URL, subjects were directed to an instruction page where the goal of the study was stated. The instructions specified that answers remained anonymous and that data analysis would be carried out in accordance to the General Data Protection Regulation (Directive 95/46/EC).

The collected data was analysed descriptively. Incomplete questionnaires were included if at least 50% of the required items were completed. One answer per club or centre was considered for analysis. IP checks performed by the software ensured multiple answers could not be obtained from the same device. However, if multiple answers were received from the same club or centre, the most recent one was kept while the others were deleted.

3. Results

Of the 61 contacted sports federations, 60 agreed to relay the questionnaire’s URL to all their affiliated sports clubs. Moreover, all ($n=17$) sports clubs agreed to fill in the questionnaire. Altogether, 361 answers were collected between the month of July to October 2019. However, after removing duplicates ($n=25$) and triplicates ($n=6$) in order to remain with only one answer per sports club or centres, 330 answers were analysed descriptively. All duplicates and triplicates matched one another, so no follow-up calls were made. The 330 questionnaires, all of which were fully completed, represented the answers of 316 different sports clubs and 14 different sports centres in French-speaking Belgium. Response rate approximated 5% for sports clubs and 82% for sports centres.

Eighty percent of the 330 participating sports clubs and centres reported their infrastructure to be accessible to individuals with a physical disability. The two most common infrastructural elements which made the locations accessible were single-storey infrastructures and sufficiently large doors to allow access to wheelchairs. However, more specific infrastructural elements, such as elevators, automatic doors and adapted locker rooms, remained relatively uncommon (Fig. 1). Twenty percent reported their infrastructure to be inaccessible to individuals with a physical disability. Moreover, appropriately adapted material and equipment such as sport wheelchairs and handbikes was available in only 12% of the 330 sports centres and sports clubs.

Forty-four percent of the 330 sports clubs and centres reported accommodating individuals with a physical disability, while 56% reported that they do not. Moreover, only 17% of the 330 sports clubs and centres reported actually

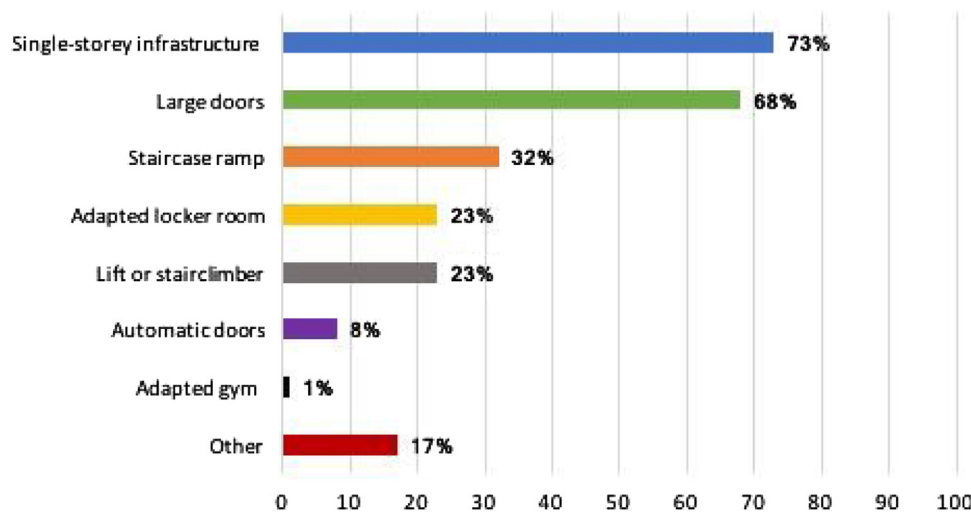


Figure 1 How is your sports club or centre made accessible to individuals with a physical disability?

organising APAS sessions for individuals with a physical disability. Of these, 52% offer one type of sport activity, 24% offer two or three types of activities, and the remaining 24% offer a wider range of activities. A large majority, or 83%, did not offer APAS programmes.

Accessibility of infrastructure and presence of adapted material and equipment seemed to be moderately linked to the presence of APAS programmes. Indeed, among the 17% who report organising specific APAS sessions, 96% reported accessibility of their infrastructure for individuals with a physical disability and 54% reported having adapted material and equipment. In comparison, among the 83% who do not organise APAS activities, 77% reported having an accessible infrastructure, while only 3% reported having adapted material and equipment.

A wide array of factors seemed to limit the development of APAS sessions in sports clubs and centres who do not offer such activities. Among these reasons, the most important were reported to be: lack of demand for such activities coming from potential participants, lack of appropriate adapted materiel and equipment, lack of availability of supervisors and, finally, lack of skilled supervisors to monitor such sessions. Lack of funding and lack of accessible infrastructure were also reported as limiting factors, though to a lesser degree than the previously mentioned reasons. Participants' risk of injury was not an issue for a large majority of these sports centres and clubs (Fig. 2).

Among the sports clubs and centres who do organise APAS sessions, only two barriers seemed to limit the expansion of APAS sessions. These were: lack of funding and lack of demand for such activities from potential participants. Availability of times slots, accessibility of infrastructure, presence of adapted equipment, availability of supervisors, skills of these supervisors, as well as participants' risk of injury, did not limit the expansion of the APAS offer (Fig. 3).

Among the sports clubs and centres who do offer APAS sessions to individuals with a physical disability, 60% reported offering sessions exclusive to these individuals. These APAS sessions are supervised by coaches, physiotherapists, occupational therapists, etc. in 91% of the institutions. Moreover, the supervisors are reported to have specific training in

monitoring and teaching APAS sessions in 68% of the sports clubs and centres. The remaining 32% do not have specifically trained monitors. The most common reasons for this were: lack of potential candidates with appropriate training, lack of knowledge concerning the availability of training courses and lack of budget to train staff (Fig. 4).

The two most frequently used communication channels were through word-of-mouth and social networks. Thirty-five percent of the institutions who offer APAS sessions to individuals with a physical disability, reported collaborating with an external hospital, medical centre and/or rehabilitation centre to facilitate recruitment of participants.

Twenty-nine percent of the 330 participating sports clubs and centres reported being aware of other institutions organising APAS sessions. Of this 29%, 82% redirected individuals with a physical disability to another institution who could accommodate them if they themselves could not meet their needs. However, the remaining 71% of sports clubs and centres were unaware of other institutions with an APAS sessions offer. Finally, 61% of the sample reported collaborating with two sports federations specialised in sports for individuals with a disability.

4. Discussion

The aim of this study was to explore the barriers which limit the APAS offer for individuals with a physical disability. Indeed, our findings, which suggest that a minority of the sports clubs and centres located within French-speaking Belgium organise sessions of this nature, align to other studies with equally low APAS offers. Moreover, our results were able to emphasize the imbalance and inequality that still exist between the APAS offer for individuals with a disability, and the sports and PA offer for individuals with no disability, as a large majority of sports clubs and centres only cater to individuals with no disability. This lack of APAS offer is undoubtedly linked to the barriers which we identified as standing in the way of the development an expansion of such activities, including lack of demand for such activities, lack of funding, and lack of trained supervisors.

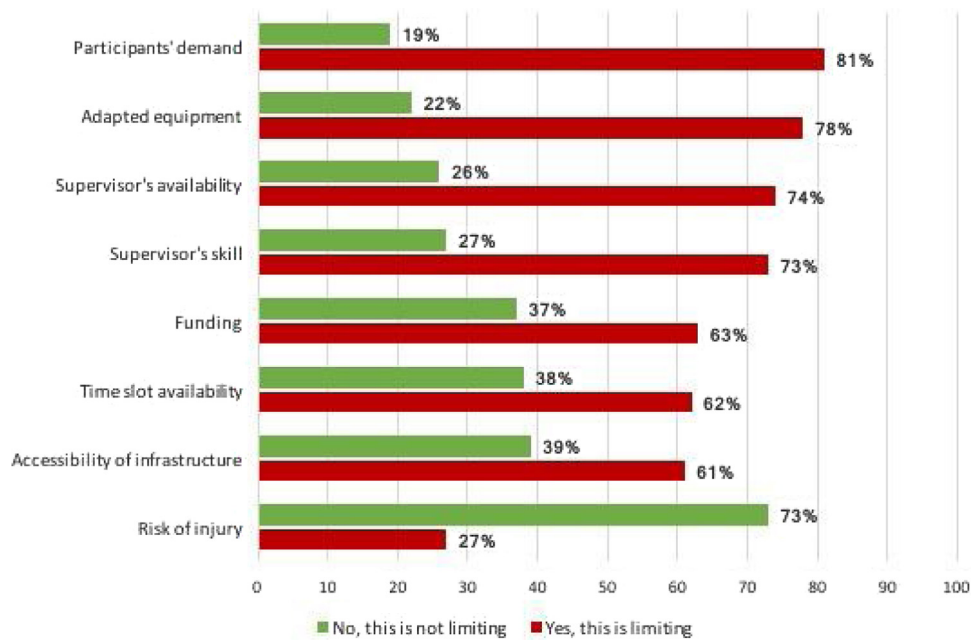


Figure 2 What factors limit the establishment of adaptive physical activity and sport sessions in your sports club or centre?

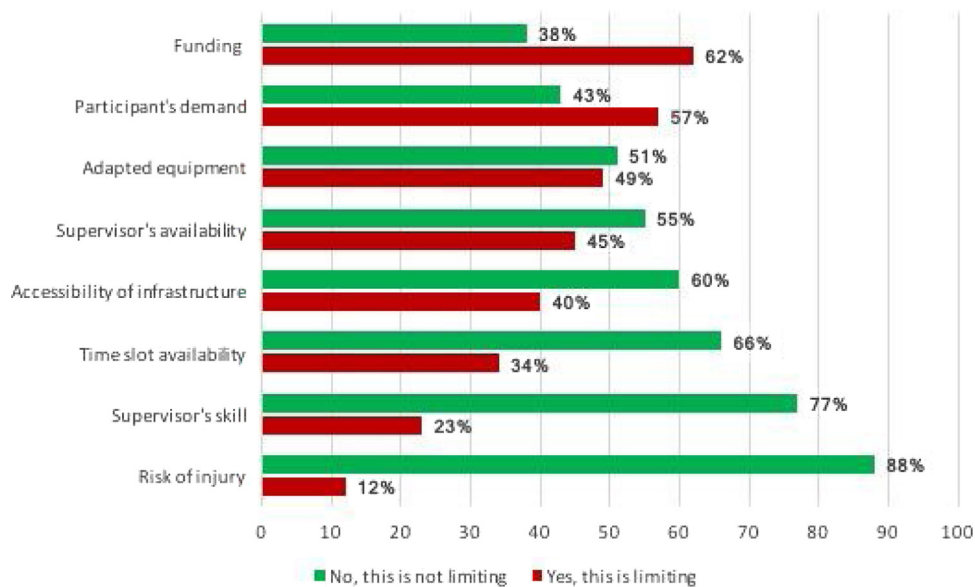


Figure 3 What factors limit the expansion of adaptive physical activity and sport sessions in your sports club or centre?

Regarding demand for APAS, research has indeed repeatedly identified low participation in recreational PA among individuals with a physical disability [14,22]. An England-based survey shows that only 9% of 150,000 individuals affiliated to various sports centres had a disability [23]. Leaning on basic economic principles, this lack of demand has an impact on the offer, as both are intricately linked and depend on one another. However, in this case, lack of demand does not necessarily stem from lack of interest for this type of offer. In fact, according to Perrier et al., a majority of inactive individuals with a physical disability report aspiration to engage in more recreational PA [24]. Moreover, Rimmer believes lack of engagement in

leisure-time PA among individuals with a physical disability should not be regarded as lack of interest for such activities [25], but should prompt action towards breaking down barriers to APAS participation. Indeed, such barriers, including as lack of knowledge on where to exercise and lack of exercise opportunity [14,25–27], are at least partly response for the low APAS demand coming from individuals with a physical disability.

It is therefore of great importance to increase awareness and visibility of the APAS offer among individuals with a physical disability. Our findings suggest that word-of-mouth and social networks are currently the two most frequently used communication channels. However, the effectiveness

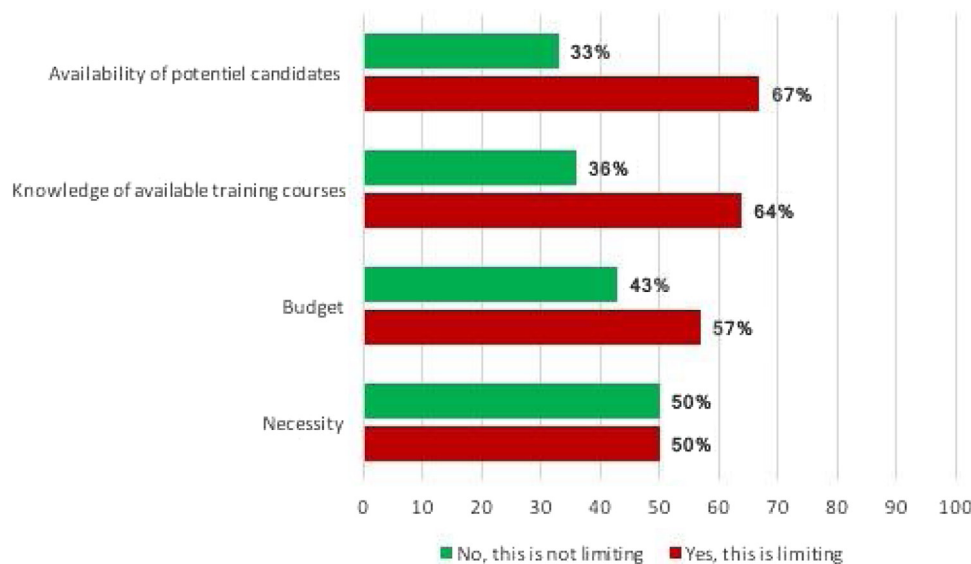


Figure 4 What factors limit the presence of monitors trained in adaptive physical activity and sports?

of these channels seem to be limited as only a minority of the participating sports clubs and centres were aware of other institutions with an APAS offer. Collaborations between sports clubs and centres should be further explored and optimised. Partnerships with umbrella organisations could also be enhanced in order to create greater unity.

Furthermore, developing partnerships with rehabilitation centres and hospitals would also benefit recruitment of APAS participants. Our findings indicate only a minority of sports clubs and centres with APAS sessions collaborate with medical institutions, despite the paramount role that medical and paramedical professionals play in promoting and inducing a physically active lifestyle among patients with a physical disability [28], by informing the patients of the benefits of PA and of leisure-time PA opportunities [29]. Moreover, according to the “Exercise is Medicine” initiative, PA should be regarded as a vital sign and implemented in conventional health care [30]. Health professionals therefore need to recognise their role in increasing awareness and visibility of the APAS offer.

Regarding lack of exercise opportunity, acknowledged as a barrier to APAS participation, our results point out that numerous sports clubs and centres do accommodate individuals with a physical disability, despite lacking specific APAS programmes. Similarly, Fullerton et al. found that while only 29% of fitness facilities organised specific fitness programs for individuals with a chronic disability, 69% of facilities reported having members with a disability [18]. These findings demonstrate that it is thus possible to integrate and include individuals with a physical disability in PA and sport sessions for the abled population, without requiring extensive adaptations. Such inclusive PA and sports programmes should also be more visible to its target group as it enables greater leisure-time opportunity for individuals with a physical disability, and could thereby facilitate participation [31]. Further research is needed to investigate which sports are most suited for this activity.

Funding is another limiting factor identified in this survey, as sports clubs and centres believe restricted budgets limit them in the development and expansion of the APAS offer. Indeed, building accessible infrastructure and acquiring appropriate equipment requires substantial financial resources. However, our findings suggest that some sports clubs and centres managed to accommodate individuals with a physical disability despite not having an accessible infrastructure and not being properly equipped. This may encourage other sports clubs and centres to open their doors to individuals with a physical disability, by coming up with resourceful yet simple ways to enable accessibility and safe participation.

Finally, lack of trained supervisors seems to be a barrier among sports clubs and centres who do not offer APAS. Sports clubs and centres with APAS did not identify this as a barrier. In-fact, half of these institutions believed the presence of a trained monitor was not a necessity. This may depend on the severity of disability of the individuals which may require professional help for safe PA practice [32]. This barrier could be overcome through greater visibility of available training courses.

Several limitations restrict this survey’s applicability. First and foremost, geographical location of the respondents was limited to French-speaking Belgium. Still, this part of Belgium’s population approximates 4 million, equivalent to populations of other small countries, and may thus be representative of what happens at a national level in some cases. Second, rate of response was low among sports clubs. However, this seemed to have limited impact on the validity of our results as a margin of error calculation, using a confidence level of 95%, showed that the potential error is limited to 5%, which does not significantly alter our results. Selection bias may also rise from the sample of sports clubs and centres which answered our survey. Participation to the survey remained volunteer-based and it is likely that only motivated individuals responded to the survey. Finally, the

term “physical disability” was not further specified and may therefore have been interpreted in different ways among respondents.

5. Conclusion

The findings generated by this study give precious insight into the APAS offer and identified, for the first time, various barriers which limit this activity including lack of demand, funding and trained supervisors. We conclude that these barriers could be overcome by increasing communication and collaboration between different stakeholders, including sports clubs and centres, rehabilitation centres and hospitals, and health professionals. Implementing these solutions at an International level could help ameliorate the APAS offer and may, in turn, increase adherence to PA and the percentage of individuals with a physical disability who reach the WHO recommendations concerning PA.

Disclosure of interest

The authors declare that they have no competing interest.

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Appendix 1. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://doi.org/10.1016/j.scispo.2020.12.002>.

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