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Review

Are diabetes camps effective?



Mark Thomaz Ugliara Barone^{a,b,c,*}, Marco Antonio Vivolo^{a,d},
Paul B. Madden^{c,e}

^a Associação de Diabetes Juvenil (ADJ Diabetes Brasil), Rua Padre Antonio Tomas, 213, São Paulo 05003-010, SP, Brazil

^b Grupo Multidisciplinar de Desenvolvimento e Ritmos Biológicos (GMDRB/EACH/USP), Rua Arlindo Bettio, 1000, Ermelino Matarazzo, São Paulo 03828-000, SP, Brazil

^c Young Leaders in Diabetes Programme, IDF (YLD-IDF), Chaussee de la Hulpe 166, B-1170 Brussels, Belgium

^d NR Camps, Tv. Ubirassanga, 41, Campo Belo, São Paulo 04614-050, SP, Brazil

^e Diabetes Education and Camping Association (DECA), 1138 Spring Cove Road, Florence, AL 35634, USA

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ABSTRACT

In the present article data about Diabetes Camps (DC) from all continents were reviewed in order to answer the title question “are diabetes camps effective?”. Articles from peer reviewed journals and abstracts published in international conferences proceedings were raised. The effectiveness was considered in terms of knowledge acquisition, and psychosocial and physiological changes. Even though expected improvements were not found in all studies, in a deeper and wider analysis the aspects that influence the most toward gains are identified. Among them are: number of participations in a DC, post-camp educational opportunities, staff training, and program oriented toward campers’ autonomy. To conclude, practical recommendations are addressed intending to amplify DC’s potential.

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* Corresponding author at: Associação de Diabetes Juvenil (ADJ Diabetes Brasil), Rua Padre Antonio Tomas, 213, Sao Paulo 05003010, SP, Brazil. Tel.: +55 11982093569; fax: +55 1136753266.

E-mail addresses: mbarone@icb.usp.br (M.T.U. Barone), mavivolo@nr.com.br (M.A. Vivolo), pmadden9@gmail.com (P.B. Madden).

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1. Introduction and methods

Diabetes Camps (DC) are considered unique experiences for children, adolescents, health care professionals (HCP), and even parents. In order to verify if the available data support the effectiveness of Diabetes Camps, an ample variety of references were raised and carefully reviewed.

Publications about the topic were obtained from: (1) PubMed, Google Scholar, Periodicos CAPES, ScienceDirect, and DiabetesJournals.org, searching for the words “diabetes” and “camp” in the title; (2) references cited in these publications; and (3) archives of the authors. Full articles, editorials and reviews published in peer reviewed journals were considered, in addition to one thesis and abstracts presented in international conferences and published in their proceedings. Article containing description of a camp, medical research performed at camps (e.g. drugs testing), and the ones with biased conclusions, contradicting its results, were not included.

2. What and where are diabetes camps?

Organized camps have been existing since 1861 [1]. The YMCA was one of the first entities to operate camps, since 1885 [2]. In addition to sports, those camps also focused on “character-building activities”. Nowadays, camps are considered to contribute toward each camper’s mental, physical, social and spiritual growth [3,4].

It is common knowledge that the first Diabetes Camp was led by Dr. Leonard F. C. Wendt, in 1925, in Michigan, near Detroit [5]. On the other hand, there is unpublished information about the existence of pre-insulin era DC, called Respite Camps (orally reported by Mary Olney who founded in 1938 Bearskin Meadow Camp). In the insulin era camps, Dr. Wendt’s camp was followed by Dr. Joslin’s camps in 1927, and Dr. John’s Camp Ho Mita Koda, in 1929 [6–8]. From that time on, diabetes camps have spread all over the world. By 1931 there were only 5 DC in the US; number that increased to 18 in 1952, including one in Canada, founded in 1946 by Dr. Charles Best, one of the discoverers of insulin; which had increased to nearly 60 in 1978 [6–10]. Nowadays, there are more than 400 active Diabetes Camps in all continents, including 185 in the US, with 25,200 campers, 15 in Canada, with 1500 campers, and many others in different countries serving approximately 30,000 campers [11,12]. In Asia at least 16 different countries organize diabetes camps [13–17]. In the American continent, they are reported in 20 countries [11,12,18,19]. In Europe, organizations from other 19 countries invest in DC [10,20–27]. In addition to other 5 in Africa and 4 in Oceania [10,28].

The first camps, and even some more recent, but still pre-DCCT, presented important differences from the ones currently active. Camp Joslin, for example, was considered “the

first ‘hospital in the woods’” [29]. In so many ways these early DC were more like hospitals, as urine tests needed to be boiled on the stove and blood was centrifuged to gain blood sugar results more than two hours later. Furthermore, with the challenges of the less pure, less predictable insulins, such as PZI, severe hypoglycemia was more frequent. McCullagh emphasizes that the average child with diabetes was denied “the pleasure and freedom of living and playing with his friends at camp” [7]. Children with T1DM could not do the same things as their classmates, but while in the summer camp they “enjoyed a happy life” and would not feel inferior, as usual [14]. Therefore, the main objective of DC at that time was giving children with T1DM an opportunity to participate in a camp and have fun while having assistance as in a hospital. With all medical development, nowadays DC must be understood in a different manner. First, all camps and recreational or educational institutions should be prepared to receive a child with diabetes, not only DC. Second, children who go to a Diabetes Camp should not feel like in a hospital, but in a safe summer camp environment.

Vaz-Velho argues that it does not make sense to compare DC as if they were all a single entity, and that their objectives and plans should be declared in order to allow further assessments [26]. Among the differences between camps are: session length (from a day to one or more weeks), type (day vs. residential camps), number and profile of staff members (only medical staff or mostly program staff), number of campers (from less than ten to more than a hundred), ratio of staff per campers, program (main focus on sports, recreation or education), educational strategies (none, games, formal classes, teachable moments, etc.), and even their primary objectives.

Nevertheless it is possible to identify similarities between most, if not all, camps. Autonomy development seems to be a common goal of all diabetes and regular camps. In DC it is expanded toward the diabetes self-management. Although some diabetes camps may still be understood exclusively as a recreational summer opportunity for children with diabetes [6,30], most DC organizers consider it a unique opportunity for diabetes education [30–32]. Nevertheless, Marble admits that these two viewpoints can easily be reconciled [6].

Among the reasons to invest in diabetes education at camps, we highlight the opportunities to: share feelings, ideas and knowledge with others of the same age group and with more experienced staff; receive emotional and social support, developing self-confidence and sense of belonging; learn and teach through authentic interactions; have easy access to HCP; try and put into practice learned content and new behaviors in a safe environment [17,30,31,33–35]. Based on that, the final goal of all diabetes camps ends up being to empower individuals to become more independent and autonomous, and, this way, live full lives with diabetes.

Organizers and staff should exploit the camp atmosphere, emphasizing the entertaining and social strengths of the

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