Evaluation of the Effectiveness of the Fun FRIENDS Program

Letícia Maria Rinaldin Garcia*,1
Orcid.org/0000-0003-0682-4425
Caroline Guisantes de Salvo Toni¹
Orcid.org/0000-0003-2114-1964
Ana Priscila Batista¹
Orcid.org/0000-0001-9849-3998
Larissa Zeggio²
Ocid.org/0000-0003-4150-1584

¹Universidade Estadual do Centro-Oeste, Irati, PR, Brasil ²Universidade Federal do Paraná, Curitiba, PR, Brasil

Abstract

Anxiety and depression are the main complaints related to mental health in childhood and constitute a public health problem. In Brazil, there are few studies that describe evidence-based early intervention actions for these psychopathologies. Considering the problems related to anxiety and depression in childhood and their relative stability in development, health promotion and prevention actions are justified. One of the evidence-based programs directed toward health promotion and prevention of anxiety and depression in childhood is the FRIENDS Program (Fun FRIENDS). Therefore, this study sought to evaluate the effectiveness of the FRIENDS program regarding the reduction in symptoms of anxiety and depression and increase in socioemotional skills, in a city of Paraná state. A total of 25 children, aged from 5 to 7, and their caregivers participated. The CBCL (Child Behavior Checklist), SDQ (Strengths and Difficulties Questionnaire) and SCAS (Spence Children's Anesthesia Scale) were used as the evaluation instruments. The results demonstrated increases in socioemotional skills and reductions in anxiety and depression symptoms. Thus, it was concluded that there is evidence that supports the effectiveness of the program for the Brazilian population.

Keywords: Health promotion, preventive programs, anxiety, depression, childhood.

Avaliação da Eficácia do Programa Amigos Divertidos (fun FRIENDS)

Resumo

A ansiedade e a depressão são as maiores queixas encontradas em relação à saúde mental na infância, sendo um problema de saúde pública. No Brasil, poucos são os estudos que descrevem ações, baseadas

^{*} Mailing address: Rua Roberto Dias Tatit, nº 154, Itararé, SP, Brasil. Phone: (42) 99827-6320. E-mail: leticia. mrgarcia@gmail.com

em evidência, para intervenções precoces quanto a essas psicopatologias. Frente as problemáticas relacionadas à ansiedade e depressão na infância, e sua relativa estabilidade no desenvolvimento, justificam-se as ações de promoção e prevenção de saúde. Um dos programas, baseados em evidências, que visam a promoção de saúde e prevenção de ansiedade e depressão na infância é o Método *FRIENDS* (Amigos Divertidos/*Fun FRIENDS*). Nesse contexto, esta pesquisa buscou avaliar a eficácia do programa Amigos Divertidos quanto a diminuição de sintomas de ansiedade e depressão e aumento de habilidades socioemocionais, em uma cidade do interior do Paraná. Participaram 25 crianças, com idade entre cinco a sete anos, e seus cuidadores. Como instrumentos de avaliação, utilizou-se os instrumentos CBCL (*Child Behavior Check List*), SDQ (*Strengths and Difficulties Questionnaire*) e SCAS (*Spence Children's Anxiety Scale*). Os resultados demonstraram aumentos das habilidades socioemocionais e redução de sintomas de ansiedade e depressão. Com isso, conclui-se que há evidências que apoiam a eficácia do programa para a população brasileira.

Palavras-chave: Promoção de saúde, programas preventivos, ansiedade, depressão, infância.

Evaluación de la Eficacia del Programa Amigos Divertidos (fun FRIENDS)

Resumen

La ansiedad y la depresión son las mayores quejas en relación en relación a la salud mental en la infancia, sendo uno problema de la salud pública. En Brasil, pocos son los estudios que describen acciones basados en evidencia, para intervenciones temprano cuanto a esas psicopatologias. Frente a las problemáticas relacionadas a la ansiedad y depresión en la infancia, y su relativa estabilidad en el desenvolvimiento, justificanse las acciones de promoción y prevención de la salud. Uno de los programas basados en evidencias que visan la promoción y la prevención de ansiedad y depresión en la infancia es lo Método *FRIENDS* (Amigos Divertidos/*Fun FRIENDS*). Nese contexto, esta pesquisa buscou valuar la eficacia del programa Amigos Divertidos en una ciudad del interior del Paraná. Participaran 25 niños, con edad entre los cinco y siete años, y sus cuidadores. Como instrumiento de avalación, utilizouse los instrumientos (*Child Behavior Check List*), SDQ (*Strengths and Difficulties Qustionnaire*) y SCAS (*Spence Children's Anxiety Scale*). Los resultados demonstraran aumento de las habilidades socioemocionales y reducción de los sintomas de la ansiedad y depresión. Con eso, concluise que hay evidencias que apoyan la eficacia del programa a la población brasileña.

Palabras clave: Promoción de la salud, programas preventivos, ansiedade, depresión, la infancia.

In childhood, anxiety and depression symptoms are among the main complaints reported in relation to mental health, which, when present with high frequency and intensity, increase the risk of developing mental disorders (Iizuka & Barrett, 2011; Zeggio, Nico, & Leonardi, 2015). These symptoms, due to different variables (e.g. environmental and personal variables), may intensify during development, which can contribute to the emergence of an anxiety disorder (AD). This is the most frequent problem among school-age children (incidence 4% to 25%), with children under five years of

age possibly already presenting clinical signs of anxiety, which constitutes a public health problem (Fernandes, Carvalho, Izbicki, & Melo, 2014). According to the Diagnostic and Statistical Manual of Mental Disorders - DSM-5 (American Psychiatric Association [APA], 2014), AD involves the characteristics of fear and excessive anxiety with related behavioral disturbances. Children with these disorders tend to have more intense concerns than are expected for the age group, these being related to school performance, health, social contacts and death of important figures such as their caregivers

(Stallard, 2010). Anxiety disorders can affect the academic context, impairing basic psychological processes and social relationships (Iizuka & Barrett, 2011). Furthermore, AD in childhood is an important predictor of the occurrence of this in adult life and may lead to an inability to work (APA, 2014; Iizuka & Barrett, 2011; Stallard et al., 2014a; Stallard et al., 2014b).

It is also important to highlight, according to Stallard (2010) and Stallard et al. (2014a), that anxiety may also be a predictor of depression in adulthood. Depression affects both adults and children (Bahls, 2002; Zeggio et al., 2015). According to Bahls (2002) depressive symptoms in childhood assume unique forms according to the age of the child. In the preschool period they are primarily associated with physical complaints, such as starting to soil the clothes again, bedwetting, headaches and abdominal pain, as well as decreased appetite, sleep disturbances, phobias, irritability and decreased pleasure in playing and going to preschool. At school age, depressive symptomology is associated with academic difficulties, problems in relationships with peers, sadness and irritability, low selfesteem, desire for or fantasies about death, crying easily and lack of ability to have fun. As highlighted by the authors, these symptoms can lead to personal and social damage for the children and can also be responsible for suicide situations (Bahls, 2002; Wainer & Piccolato, 2011).

According to Zeggio and Torres (2017), anxiety and depression in childhood can be reduced through the adequate development of socioemotional skills. Socioemotional skills relate to a set of cognitions, behaviors and emotions that corroborate in the production of a healthy life and that can be developed and learned (Damásio & Grupo Semente Educação, 2017; Weissberg, Durlak, Domitrovich & Gullotta 2015). In terms of specific skills, the authors mention "the recognition and management of emotions, empathy, the establishment of positive goals, the construction and maintenance of positive relationships, responsible decision making and the management of interpersonal situations in a constructive way" (p. 94). The

lack of these skills is linked to interpersonal difficulties involving both externalizing (directed toward others, such as hyperactivity and impulsivity, verbal or physical aggression, destruction of objects, oppositional behaviors and lies) and internalizing behavioral problems (self-directed, covert, such as depression and anxiety, shyness and withdrawal; Cia & Barham, 2009; Del Prette & Del Prette, 2009), with there being a relationship between deficits in socioemotional skills, internalizing behavior problems and symptoms of anxiety and depression. Furthermore, the lack of these skills is linked to poor academic performance and school maladjustment in childhood, unemployment in adulthood and mental disorders throughout the life cycle (Zeggio & Torres, 2017).

In an attempt to intervene in these problems, both in Brazil and worldwide, the expenditures on mental health treatment have been very high. *Ministério da Saúde* (2015) highlighted that the money destined for the treatment and monitoring of people with mental disorder in Centers of Psychosocial Attention (CAPS) reached approximately one billion reais in 2014. In addition, the World Health Organization (WHO, 2016) predicts that the cost of treatments for mental disorders may be up to \$147 billion by 2030.

In this context, investing in prevention and health promotion programs is essential. Interventions in the context of prevention and health promotion do not require high financial investment, demonstrate effectiveness in the medium-term (Lohr, Melo, Salvo, & Silvares, 2013) and are based on the principle of the importance of reducing risk factors and increasing protection factors¹ (Buss, 2009; Murta & Santos 2015). O'Connell, Boat, and Warner (2009) defined mental health promotion as, interventions directed toward the entire population, which

¹ Risk factors correspond to environmental conditions that make it more likely that problems will arise in the individual. Protective factors reduce this possibility and provide the individual with positive consequences (Papalia & Feldman, 2013).

aim to broaden the individual's abilities and skills. Universal prevention differs from health promotion by focusing on the development of skills that reduce the impact of general risk factors on the development. Selected prevention is aimed at specific groups that are at risk of developing mental disorders. While indicated prevention refers to interventions directed toward individuals who, although they do not reach the levels of diagnosis at the moment of evaluation, present a high risk of developing a mental disorder.

According to Iizuka and Barrett (2011) and Murta and Santos (2015), despite their importance, there is still a shortage of prevention and early intervention programs that have been proven effective. In Brazil, no study was found on the evaluation of the effictiveness of prevention programs for anxiety or depression in childhood and adolescence (Fernandes et al., 2014). This demonstrates the scarcity of incentives and actions regarding this form of intervention in the public policies of the country (Abreu, Barletta, & Murta, 2015; Fernandes et al., 2014). At the international level, studies indicate that programs exist for these purposes, although few with robust effectiveness and efficiency, with the FRIENDS Program being one of these (Fernandes et al., 2014; Iizuka & Barrett, 2011; WHO, 2016).

The FRIENDS Programs, developed by Dr. Paula Barrett in 1990 in Australia, is a brief mental health intervention program, evaluated positively by the WHO and National Registry of Evidence-Based Programs and Practices (NREPP), which seeks to promote resilience, prevent anxiety and depression, and increase socioemotional skills in children and young people (Zeggio et al., 2015). After the efficacy and effectiveness of the FRIENDS Method was proven in Australia, it was used as a mental health intervention practice in other countries. To confirm the efficacy and effectiveness of a program, Murta and Santos (2015) stated that it is necessary to carry out an efficacy and effectiveness tests. The first aims to verify whether the program performed in ideal conditions manages to achieve the objectives that were predicted in the original design. The second occurs in the natural environment, and aims to identify the external validity of the intervention, making generalization of the results possible in different contexts. The FRIENDS Programs, after being examined in several studies from various countries (e.g.: Australia: Anticich, Barrett, Silverman, Lacherez, & Gillies, 2013; England: Stallard et al., 2005; Stallard et al., 2014b; Skryabina, Taylor, & Stallard, 2016; Waldron, Stallard, Grist, & Hamilton-Giachritsis, 2018; Spain: Gallegos-Guajardo, Ruvalcaba-Romero, Langley, & Villegas-Guinea, 2015; Tortella-Feliu, Servera, Balle, & Fullana, 2004; and The USA: Iizuka, Barrett, Gillies, Cook, & Miller, 2014) have been shown to be effective in reducing anxiety and depression symptoms in a group format, both in the clinic (Farrell, Barrett, & Claassens, 2005) and the school (Rodgers & Dunsmuir, 2015; Stallard et al., 2005; Stallard et al., 2014a; Stallard et al., 2014b).

The majority of these international studies measured the efficacy and effectiveness of the FRIENDS Method using psychometric instruments applied at the pre-test, post-test and follow-up moments (Gallegos-Guajardo et al., 2015; Rodgers & Dunsmuir, 2015; Shortt, Barrett, & Fox, 2001). In general, they seek to assess whether participation in the program leads to a changes in the frequency of the anxiety symptoms (Rodgers & Dunsmuir, 2015; Stallard et al., 2005; Stallard et al., 2014b) symptoms (Ahlen, Breitholtz, depressive Barrett, & Gallegos, 2012), socioemotional skills (Anticich et al., 2013; Gallegos-Guajardo et al., 2015), resilience (Gallegos-Guajardo et al., 2015; Stallard et al., 2005) and self-esteem (Stallard et al., 2005; Stallard et al., 2014b) of the participants. The results of these studies were promising, since through quasi-experimental and experimental methodologies they demonstrated significant changes when comparing the pre-test, post-test and follow-up scores. Examples of the results of participation in FRIENDS Programs are reductions in the anxiety and depression symptoms and increases in the socioemotional skills, resilience and self-esteem of the

participants after the intervention (Ahlen et al., 2012; Anticich et al., 2013; Gallegos-Guajardo et al., 2015; Rodgers & Dunsmuir, 2015; Stallard et al., 2005; Stallard et al., 2014b), indicating the potential of the FRIENDS Method for the prevention and promotion of mental health in childhood. The studies with the FRIENDS Method occurred in both the indicated prevention form (Shortt et al., 2001; Stallard et al., 2005) and the universal form (Stallard et al., 2014a; Stallard et al., 2014b; Tortella-Feliu et al., 2004). It has been applied by psychology (Gallegos-Guajardo et al., 2015), nursing (Stallard et al., 2005) and education professionals (Stallard et al., 2014b), all previously trained to conduct the program. The programs are organized into four levels, separated by age groups, namely: from 4 to 7 years (Fun FRIENDS), from 8 to 11 years (FRIENDS for life), from 12 to 17 (My FRIENDS youth) and, from the age of 18 (Strong not Tough). The four levels, according to Zeggio et al. (2015) follow the same theoretical framework (Cognitive-Behavioral Therapy, Positive Psychology and Neuroscience) and are performed through activities tailored toward each target group, with specific objectives and the development of skills and competences (Barrett, 2012; Iizuka & Barrett, 2011; Pavoski, Toni, Batista, & Ignachewski, 2018).

The Fun FRIENDS level, used in this study, follows a predetermined structure, which is organized in 14 sessions that are divided into: 12 meetings for the children, 10 initial and two reinforcement, and two meetings for the parents/ caregivers. In the 1st meeting with the children, the program is presented to them, as well as the skills that will be worked on in the program. The 2nd is aimed at developing skills to regulate emotions and identify feelings and perceptions of physiological symptoms; the 3rd involves the training of social skills and confidence; the 4th focuses on expanding the attention of the child toward him/herself and managing emotions; and the 5th aims to comprehend the thoughts and their connection with feelings and behaviors. The 6th aims to promote coping skills in varied contexts and situations and focuses on feelings; the 7th seeks to develop planning skills and problem solving; the problem solving plan is presented in the 8th meeting; the 9th refers to the promotion of assertiveness and conflict resolution strategies, and the 10th is characterized by a general review of all the content covered during the previous meetings and to work with model people. After one and two months, two reinforcement sessions are held consecutively to recall the skills of the previous meetings and encourage the children to reflect on how to incorporate them into everyday life. After each meeting the children are given tasks that must be done by them during the week in order to strengthen the skills learned in each session.

Regarding the parents' meetings, the 1st aims to explain how the program works, to sensitize the caregivers regarding anxiety and depression in childhood, and to construct an alliance with them for the development of the program. The 2nd seeks to help the family to introduce a plan for a resilient and healthy family and to support the children in the participation of the program. In addition, in all the sessions of the children the caregivers participate with them during the final 10 minutes. In this space the parents, through the children, get to know the contents developed by them in that meeting. Both the meetings with the caregivers and their participation at the end of each session, with guidance for activities to be carried out with the children every day, are of fundamental importance for the extension of the skills and competences taught in the sessions to other contexts. Thus, the involvement of the parents contributes to the strengthening and generalization of the skills worked on in the program (Barrett, 2012; Iizuka & Barrett, 2011).

The literature highlights a great cost-benefit of the Fun FRIENDS program for childhood mental health promotion and prevention (Zeggio et al., 2015). Considering the importance of health promotion and prevention actions in childhood, it is necessary to carry out studies that evaluate the efficacy and effectiveness of the Fun FRIENDS Program for the Brazilian population. In this context, the present study was based on the hypothesis that children participating in the

Fun FRIENDS Program would present reduced anxiety and depression, as well as an increase in the repertoire of socioemotional skills when comparing the frequency of these behaviors before and after their participation in the program and at the follow-up. Thus, this study aimed to evaluate whether the Fun FRIENDS Program, performed in a group format in the clinical environment, was effective to decrease anxiety and depression symptoms and to increase socioemotional skills in children of a city of Paraná state.

Method

Participants

A total of 25 children aged 5 to 7 years (mean age 6.55 years), of both sexes (18 boys and 7 girls), divided into three groups, and their parents/caregivers participated in this study. The children participated in three distinct groups of application of the FRIENDS program in a Public University School-Clinic in the state of Paraná throughout the years 2016 and 2017: Group 1 (n = 10), 9 students in private schools, Group 2 (n = 9) and Group 3 (n = 6), all of these being public school students [Private School = 9, Public School = 16]. Two inclusion criteria were adopted: children aged 5 to 7 years and parents/ caregivers who were willing to participate in the program activities [for 10 minutes at the end of each children's meeting and in 2 parent's meetings].

The mean age of the fathers of the children was 38 years and the mothers 34 years. Of the total number of participants, 18 children (72%) lived with the father and mother, while 7 (28%) lived with only one parent.

Instruments

The Child Behavior Checklist – CBCL (Achenbach & Rescorla, 2001) is an instrument that provides a behavioral profile for children and adolescents aged 6 to 18 years. It consists of two parts that are divided into items related to the child's social skills (sociability, activity

and schooling) and behavioral problems. Behavioral problems are grouped into two scales, internalizing problems and externalizing problems. The internalizing problems scale measures anxiety, depression, withdrawal and somatic complaints, while the externalizing problems scale measures aggressive and rulebreaking behaviors. These scales are summed with the social, thought and attention problems to compose the Total Problems Scale. The CBCL is completed by the caregiver of the child. In the first part of the instrument, social skills, the answers are given by comparing the behavior of the child with that of other children of the same age group, describing the child's action as below average, average or above average for the described behavior. In the second part, the caregivers respond to statements regarding the behavioral problems presented by the child considering the previous six months, through a three point Likert scale, that describes the frequency as never, sometimes and always (Silvares, Rocha, & Emerich, 2016).

The CBCL weighted results allow children to be classified into "nonclinical", "borderline" and "clinical" categories (Bordin, Mari, & Caiero, 1995) for the different scales (i.e. the activities, sociability and academic activities scales; clinical < 31), total social skills scale (nonclinical > 35), internalizing, externalizing and total behavioral problems scales (clinical > 63) and the anxiety/depression, withdrawal / depression, somatic complaints, problems, thought problems, attention problems, rule breaking behavior and aggressive behavior subscales (clinical > 68). This instrument was evaluated by means of a computerized analysis carried out using the ADM 7.0 software (Moura, Marinho-Casanova, Meurer, & Campana, 2008). The CBCL was adapted and validated for the Brazilian population by Bordin et al. (1995), having recently been reassessed (Brasil & Bordin, 2010), presenting good psychometric qualities of validity and reliability (Rocha et al., 2013; Silvares et al., 2016).

The Strengths and Difficulties Questionnaire – SDQ (Goodman, 1997) is an

instrument that evaluates the behavior of children and adolescents from 3 to 16 years of age and aims to identify childhood mental health problems. It consists of 25 items, 10 items related to capabilities, 14 to difficulties and 1 neutral item. The items are divided into five subscales: (1) Pro-social behavior problems (knowing how to cooperate, help, share); (2) Hyperactivity, (restlessness, distraction, inattention); Emotional symptoms (fears, excessive worries, sadness and hopelessness); (4) Conduct problems (irritability, aggressiveness, antisocial behaviors such as lies); (5) Relationship problems with peers (difficulties in relationships with other children or adults). To carry out the study the SDQ was answered by the parents/caregivers. For each statement, the caregiver responds, on a three-point Likert scale, regarding how much the described behavior is false, more or less true, or true for their child. Through the sum of the subscales, the total sum of difficulties is attained (Goodman, 1997). Each of the five subscales and the Sum of Total Difficulties has a specific cutoff point that allows children to be classified into the "clinical", "non-clinical" and "slightly above average" categories. Clinical scores for prosocial behavior are between 0 and 4, for hyperactivity 7 and 10, emotional symptoms 5 and 10, behavioral problems 4 and 10, peer relationship problems 4 and 10, and total difficulties between 17 and 40 (Graeff-Martins & Fleitlick-Bilyk, 2016). The SDQ was adapted for the Brazilian population, presenting positive indexes of validity and reliability in this context (Saur & Loureiro, 2012).

The Spence Children's Anxiety Scale – SCAS (Spence, 1998) is a scale that aims to measure children's anxiety levels. The instrument consists of 38 items. These items are divided into six scales: (1) separation anxiety; (2) social phobia; (3) obsessive compulsive problems; (4) panic/agoraphobia; (5) generalized anxiety; and (6) physical injury fears. For the application of the SCAS, the caregivers provide answers regarding the frequency of the child's behaviors using a four-point Likert scale, with response options of: never, sometimes, often and always. The sum of all the scales forms the

Total Score of anxiety symptoms (DeSousa, Isolan, & Manfro, 2016), which allows the population to be classified into the categories: "severe clinical" (mean: 54.48; standard deviation: 15.82), "moderate and mild clinical" (mean: 41.10; standard deviation: 14.73), and non-clinical (mean: 22.15; standard deviation: 12.90; DeSousa et al., 2014). The preliminary data of validation and standardization of the SCAS for the Brazilian population demonstrated its validity and the possibility of use in Brazil (DeSousa et al., 2014).

Data Collection Procedures

Recruitment. The data of the present study came from three groups of children who participated in the Fun FRIENDS Program in a School-Clinic of a Public University of the state of Paraná, in the years 2016 and 2017. For the project to be carried out, the researchers and trainees initially participated in a training session, provided by a trainer internationally qualified in the FRIENDS Method, to be able to act as facilitators of the program.

Two strategies were used to compose the groups: (a) contact with the Psychology Clinic-School to identify children on the waiting list for psychotherapy that met the age criterion of the research (five to seven years), regardless of the complaint reported at the time of enrollment for the service. Only one child met the age criterion of the study, and she and her parents agreed to participate in the group (n = 1); (b) contact with schools in the city and invitation to parents/caregivers via the school. This invitation provided information about the Program and how to sign up for free by calling the Psychology Clinic-School. All the children enrolled in this way (n = 24) participated in the study, following the order of registration for the construction of the groups.

Data Collection

Prior to the initiation of the interventions, the parents/caregivers were invited to an initial interview in which the Fun FRIENDS method and the study were presented by the facilitators. Those who agreed to participate signed the consent form and responded to the CBCL, SCAS and SDQ (pre-test) inventories and scales individually, in the presence of one of the researchers. The adapted version of the FRIENDS Method for Brazil was used for the performance of the program, which is available in the Fun Friends Manual (Barrett, 2012). After 10 meetings, the participants were evaluated again with the same instruments (post-test). After that, two more reinforcement meetings were held and during the last meeting the parents/caregivers performed the final evaluation (follow-up), which took place approximately two months after the post-test, three caregivers did not attend. Both the post-test evaluation and the follow-up evaluation occurred in a collective way and with the presence of a facilitator so that any doubts of the parents could be clarified. The design of the present study is characterized as quasi-experimental.

Data Analysis Procedures

Quantitative analysis methodology was used in this study. The data of the instruments were systematized and analyzed using the SPSS 17.0 software (Statistical Package for the Social Sciences) using descriptive and inferential statistics. The Wilcoxon nonparametric statistical test was used to compare the data of the pre-test and post-test, post-test and follow up, and pre-test and follow up. The Wilcoxon test is used to compare paired samples from the comparison of two moments of evaluation of the same individual. This comparison provides the Zand p scores. A p value ≤ 0.05 indicates that the difference was statistically significant.

Ethical Procedures

The data used in this study came from two studies submitted to the Ethics Committee of UNICENTRO(EthicsCommitteeApprovalbased on Authorization No. 65208116.1.0000.0106 and No. 55858916.1.0000.0106), which allow the use of their data for the performance of other studies.

Results

The evaluation of the effectiveness of the Fun FRIENDS program was based on the results of the CBCL, SCAS and SDQ instruments. The instruments were applied with the three groups at three moments: pre-test, post-test and follow-up. A total of 25 children participated in the pre-and post-test stage and 22 children participated in the follow-up, with 3 families (children + caregivers) not attending the final reinforcement meeting, in which the follow-up evaluation was carried out.

The data collected in the pre-test of the three groups were compared using inferential statistics (Mann-Whitney U) to see whether it was possible to combine the participants and to carry out a joint analysis of the data. Of the 28 subscales and scales of the three instruments, 27 were statistically equal. Only the emotional symptoms subscale of the SDQ instrument, was not shown to be statistically equal among the groups (U = 8.332; p =.01). Due to this finding of homogeneity in relation to the groups, the present work chose to combine the data. The data obtained in the scales and subscales of the CBCL, SCAS and SDQ, for each of the evaluation moments, are presented in Table 1.

In Table 1 it can be seen that the means of the children in all the evaluation periods presented as non-clinical for the three instruments. The pre-test means indicate that children were not clinical prior to the intervention, and the post-test and follow-up means indicate the continuation of the non-clinical status.

In the evaluation performed with the CBCL, it is possible to observe an overall tendency of the participants' means indicating an improvement in social skills when comparing the pre-test, post-test and follow-up moments, with the exception of the activity subscale. However, there was no significant statistical difference in these subscales (sociability, schooling and total skills; Wilcoxon, p > .05) [see Table I]. There were statistically significant reductions in pre-and post-test comparisons in the anxiety (Z = 3.135; p < .01), depression (Z = 1.988; p < .05),

somatic complaints (Z = 2.048; p < .05) and social problems (Z = 3.562; p < .001) subscales. The same pattern of symptom reduction intensified in the post-test and the follow-up comparison for the anxiety subscale (Z = 2.444; p < .01), and although this intensification was not observed in the other subscales, the reduction of the

symptoms remained in the pre-test and follow-up comparison for all the subscales, with the exception of somatic complaints. The sum of the analysis of the internalizing symptoms, obtained in the subscale "internalizing problems", also showed a reduction when comparing the pre-test and follow-up moments (Z = 3.608; p < .01).

Table 1 Means, Standard Deviation and Wilcoxon Non-Parametric Inferential Comparison Analysis of the Sample through the CBCL, SCAS and SDQ

| CBCL Data | | | | | | | | | |
|----------------------------|----------|--------------------|-----------|-----------------------|-------|--------------------|---|-------------|--------------|
| Scales and Subscales | Pre-test | | Post-test | Follow-up | | | Comparison between the different evaluation moments | | |
| | Mean | Standard deviation | Mean | Standard deviation | Mean | Standard deviation | Pre-Post | Post-Follow | Pre-Follow |
| Activity | 45.58 | 10.890 | 45.04 | 6.516 | 43.27 | 8.903 | z=-0.174 | z=-0.784 | z=-0.784 |
| Sociability | 47.32 | 6.866 | 49.12 | 7.780 | 49.82 | 8.787 | z=-1.220 | z=-0.480 | z=-1.169 |
| Education | 45.96 | 8.008 | 46.08 | 6.331 | 46.59 | 6.822 | z=-0.415 | z=-0.350 | z=0.000 |
| Total Competencies | 45.13 | 7.742 | 46.96 | 7.950 | 46.09 | 9.971 | z=-1.495 | z=-0.163 | z=0.000 |
| Anxiety/ Depression | 63.72 | 5.906 | 57.88 | 5.897 | 54.45 | 4.718 | z=3.135** | z=-2.444** | z=-0.916*** |
| Withdrawal/ Depression | 58.04 | 7.908 | 55.84 | 6.081 | 54.55 | 5.422 | z=-1.988* | z=-0.957 | z=-2.962** |
| Somatic Complaints | 57.00 | 6.745 | 54.00 | 4.368 | 54.45 | 5.655 | z=2.048* | z=-0.229 | z=-1.351 |
| Social Problems | 58.12 | 5.696 | 54.20 | 3.990 | 53.68 | 3.657 | z=-3.562*** | z= -0.514 | z=-2.769** |
| Thought Problems | 55.36 | 11.132 | 53.88 | 5.134 | 51.68 | 2.818 | z=-1.116 | z=-0.452 | z=-2.958** |
| Attention Problems | 59.88 | 6.333 | 54.88 | 6.260 | 55.00 | 6.597 | z=-2.807 | z=-0.066 | z=-2.614** |
| Rule-Breaking Behaviors | 61.40 | 7.427 | 52.68 | 3.010 | 51.59 | 1.593 | z=-3.685 | z=-1.476 | z=-3.466*** |
| Aggressive Behavior | 61.56 | 7.154 | 55.52 | 5.486 | 54.09 | 4.83 | z=-4.031 | z=-1.790 | z=-3.927*** |
| Internalizing problems | 59.20 | 9.574 | 56.00 | 6.042 | 52.09 | 7.922 | z=-2.889 | z=-1.918 | z= -3.608*** |
| Externalizing problems | 60.36 | 8.103 | 51.92 | 8.052 | 48.64 | 9.016 | z=-4.018 | z=-2.189 | z=-3.986*** |
| Total Problems | 1.81 | 0.801 | 52.76 | 6.26 | 49.77 | 7.571 | z=-4.189 | z=-2.194 | z=-4.112*** |

| SCAS Data | | | | | | | | | |
|--|----------|--------------------|-----------|--------------------|-----------|--------------------|---|-------------|------------|
| Scales and Subscales | Pre-test | | Post-test | Follow-up | | | Comparison between the different evaluation moments | | |
| | Mean | Standard deviation | Mean | Standard deviation | Mean | Standard deviation | Pre-Post | Post-Follow | Pre-Follov |
| Agoraphobia | 0.84 | 1.375 | 0.32 | 0.557 | 0.48 | 0.873 | z=-0.615 | z=-0.540 | z=-0.312 |
| Separation Anxiety | 6.32 | 3.375 | 4.00 | 2.582 | 4.10 | 2.211 | z=-3.114** | z=-0.143 | z=-2.782** |
| Physical Injury Fears | 3.64 | 2.596 | 2.88 | 2.128 | 3.14 | 2.351 | z=-2.003* | z=-0.294 | z=-0.836 |
| Phobia | 3.64 | 2.827 | 3.80 | 2.236 | 3.33 | 2.633 | z=-0.488 | z=-1.032 | z=-0.546 |
| Obsessive/ Compulsive Problems | 1.44 | 1.938 | 0.72 | 1.137 | 0.76 | 0.995 | z=-1.812 | z=-0.180 | z=-2.504** |
| Generalized Anxiety | 5.12 | 2.027 | 4.20 | 1.826 | 3.86 | 2.128 | z=-1.970* | z=-1.713 | z=-2.186* |
| Total anxiety symptoms | 21.00 | 8.583 | 15.92 | 7.076 | 15.62 | 6.808 | z=-3.067** | z=-0.526 | z=-2.592** |
| SDQ Data | | | | | | | | | |
| Scales and Subscales | Pre-test | | Post-test | | Follow-up | | | | |
| | Mean | Standard deviation | Mean | Standard deviation | Mean | Standard deviation | | | |
| Pro-social Behavior | 8.35 | 1.672 | 8.64 | 1.524 | 8.44 | 1.977 | z=-1.431 | z=-0.663 | z=-0.690 |
| Hyperactiv- ity | 5.00 | 2.884 | 3.32 | 2.750 | 3.78 | 2.365 | z=- 2.963** | z=-0.040 | z=-1.934* |
| Emotional Symptoms | 3.88 | 2.551 | 2.04 | 1.457 | 2.28 | 1.487 | z=- 2.933** | z=-0.902 | z=-3.039** |
| Relation- ships with Peers Prob- lems | 1.31 | 1.379 | 1.88 | 2.108 | 1.28 | 1.274 | z=-1.106 | z=-1.405 | z=-0.360 |
| Conduct Problems | 2.27 | 1.756 | 1.44 | 1.66 | 1.50 | 1.505 | z=-1.953* | z=-0.617 | z=-2.070* |
| Total Sum of Difficulties | 12.46 | 6.326 | 8.68 | 5.793 | 8.56 | 4.553 | z=- 2.357** | z=-0.832 | z=-3.101** |

 $p \le .05*; p \le .01**; p \le .001***.$

Regarding the symptoms related to externalizing problems, statistically significant reduction of symptoms was observed when the pre-test and follow-up moments were compared in the aggressive behavior (Z = 3.927; p < .001) and rule breaking (Z = 3.466; p < .001) subscales and in the total scale of "externalizing problems" (Z = 3.986; p < .001).

In the evaluation performed with the SCAS, it was possible to observe the reduction of anxiety symptoms obtained through the "total" score when comparing the pre- and post-test moments (Z = -3.067; p < .01), which was maintained in the pre-test and follow-up evaluation (Z = -2.592, p < .01). There were no statistically significant differences in the phobia and agoraphobia subscales. There was, however, a reduction of anxiety symptoms in the pretest and post-test comparison in the separation anxiety (Z = -3.114; p < .01) and generalized anxiety (Z = -1.970; p < .05) subscales and in the pre-test and follow-up comparison in these and other subscales: separation anxiety (Z = -2.782, p < .01), obsessions-compulsions (Z = -2.504; p < .01) and generalized anxiety (Z = -2.186; p<.05). The data obtained from the evaluation of the results of the SDQ showed a reduction of the difficulties, obtained through the general "sum of difficulties" score, when comparing the pre- and post-test moments (Z = 2.357; p<.01) and pre-test and follow-up moments (Z =3.101; p < .01). Regarding the subscales, there was no statistically significant difference in the subscales "relationship with colleagues" and "prosocial behavior" (both with p > .05). There was a reduction of anxiety and depression symptoms obtained through the subscale "emotional symptoms" in both the pre- and post-test comparison (Z = 2.933; p < .01) and the pre-test and follow-up comparison(Z = 3.039; p < .01). A reduction of symptoms related to externalizing problems was also observed, with the reduction in the "hyperactivity" (pre / post, Z = 2.963; p < .05 and pre / follow, Z = 1.934; p < .05) and "Conduct problems" (pre / post, Z = 1.953, post-test; p < .05 and pre / follow, Z =2.070; p < .05) subscales.

Discussion

Through the instruments used in the present study it was possible to identify that, although the participants did not present sufficiently severe symptoms to be categorized as "clinical", the results showed a reduction of anxiety and depression indicators in all subscales after the intervention with the FRIENDS procedure, with the exception of the phobia subscale. Accordingly, the effectiveness of the program regarding the reduction of symptoms of anxiety and depression in childhood was verified in agreement with the international studies (Anticich et al., 2013; Gallegos-Guajardo et al., 2015; Iizuka et al., 2014; Stallard et al., 2005; Stallard et al., 2014a; Skryabina et al., 2016; Tortella-Feliu et al., 2004) and with the initial hypothesis of this study. However, unlike what was expected, the instruments used showed that there was no significant improvement in social skills. However, the reduction of externalizing symptoms in the sample after the intervention was systematically observed in all subscales of the instruments used. This profile of results taken together is encouraging with regard to the availability of effective mental health prevention procedures in Brazil.

As anxiety is a predictor of depression (Stallard, 2010) and as these disorders share the same risk factors (Figueiredo, in press; Iizuka & Barrett, 2011) and symptoms (Bahls, 2002; Fernandes et al., 2014), the scales of the instruments that concern anxiety and depression were analyzed together, in congruence with the concept of internalizing problems – directed toward the alteration of the individual's thoughts and emotions towards him/herself [namely: SCAS – separation anxiety, phobia and generalized anxiety subscales and total anxiety scale; SDQ – emotional symptoms; CBCL – anxiety/depression, withdrawal/depression, somatic complaints, internalizing problems].

Regarding the data observed in the phobia subscale (SCAS), which refers to signs and symptoms related to social phobia disorder, it was expected that this indicator would decrease, since the procedure also aims to improve general

(interpersonal) social skills, and contribute to the formation of new friendships. One hypothesis for this negative result may be the low score of the participants for this index in the pre-test which could have contributed to not observing a change in the scores after the intervention. International investigations into the effectiveness of the FRIENDS Program in preschool children using the SCAS have generally only assessed changes in overall test scores ("total anxiety") and have found positive results in reducing anxiety symptoms with this scale, both in clinical samples receiving treatment in the clinic (Farrell et al., 2005) and in universal prevention programs in schools (Anticich et al., 2013; Dohl, 2013; Pahl, & Barrett, 2010). Although the Mexican study of universal prevention in preschool with the FRIENDS program was the only one that did not observe statistically significant differences using the SCAS (Zertuche, 2012) in either its total score nor in the subscales, there was a decreasing tendency in the means of the total score before and after the intervention, following the same pattern as previous studies.

Another possible hypothesis for these results is that the intervention with the FRIENDS program in the present study was not sufficiently robust to amplify the specific repertoire of social skills related to assertive interactions with peers and therefore changes in the social phobia subscale would not have been identified. Accordingly, mixed results were observed in the subscales that evaluate social skills similar to this construct. In the CBCL, there was only a trend of improvement in the means of signs in the "sociability" and "social skills" subscales, without statistically significant differences, although the "social problems" scale showed a significant reduction after the intervention. In the SDQ, the pro-social behavior and peer relationships subscales did not change, although the results at all the times evaluated were close to the upper limit in the first and the lower limit in the second, suggesting a ceiling effect/floor effect and low sensitivity of the instrument. In international studies the low sensitivity of the SDQ has been observed after interventions with the FRIENDS program (Dohl, 2013; Farrell et al., 2005) and other instruments have been used to refine the evaluation of the social skills in the participants (e.g. Coping Skills Questionnaire, BIQ - Behavioral Inhibition Questionnaire, BERS - Behavioral and Emotional Rating Scale, among others), however these do not have psychometric validation for the Brazilian population, making it impossible to use them. It is also possible to hypothesize that the follow-up time was insufficient for less sensitive instruments to show more subtle changes in the participants' social behavior. It is understood that during development there may be a time lag for a highrisk event to occur and change in that symptom to be noted, as well as the point that while a new behavioral repertoire is not consolidated, fluctuations between the use of this new skill being learned and the child's previous repertoire continue to exist (Guancino & Toni, 2017).

Although the primary goal of the FRIENDS program procedure and this study was not to evaluate the impact of the intervention program on externalizing problems, the results observed are important, since the reduction of emotions and behaviors directed toward others was verified in all the subscales of the instruments that evaluated these characteristics [CBCL and SDQ].

The program contributes to the development of skills and competences that allow the development of emotional and behavioral selfregulation through activities such as: identifying, managing and validating the ones own emotions and those of others, step-by-step plan for gradual exposure and resolution of problem, relaxation and coping training, stress management strategies, observation and perception of thoughts in a positive way, identifying and seeking a support network, identifying and controlling physiological responses, healthy life moment, activities to learn to be courageous, to reward oneself and to think about and be thankful for the happy moments of each day (Barrett, 2012; Iizuka & Barrett, 2011). The naming and regulation of the intensity of emotions is related to self-control and is essential for the reduction of attacks of anger and aggression (Leahy, Tirch, & Napolitano, 2013; Musich & Scandar, 2015).

In addition, the coping training and step-by-step strategies developed in the program may have increased the children's repertoires of alternative behaviors used to deal with situations that generated behavioral problems and hyperactivity. Mindfulness training, developed in the program to reduce symptoms of anxiety and depression, has been reported as essential for the treatment of individuals with Attention Deficit Disorder and Hyperactivity (Anastapoulos & Gerrard, 2009; Lópes, Vizcaino, Calvo, López, & Vila, 2016) and contributes not only to the improvement of attention but also to the control of impulsivity, which is also frequent in behavioral problems. These results, coupled with the previously reported decrease in emotional symptoms, demonstrate an increase in the development of socioemotional skills and a decrease in violent and aggressive behaviors that hamper the socialization of children.

In summary, the Fun FRIENDS – procedure of the FRIENDS program for children aged between 4 and 7 years may have enabled the results observed in this study, with it helping in the development of increased self-esteem of the children, as well as the development of problem solving and emotional regulation repertoires that contribute to greater acceptance and a good relationship with peers (Stopa, Barrett, & Golingi, 2010). For this, the activities of the program work with techniques of recognition and management of emotions, self-control and calming, with the establishment of positive goals, empathy training, understanding of one's own feelings and those of others and step by step planning to make friends and be a good friend. The group work is also essential for the development of socioemotional skills as it allows children to share their experiences with one another and learn to cooperate in the work of everyday life (Barrett, 2012).

Some factors can be highlighted as important variables for the positive outcome of the program, such as parental participation and involvement, repetition of the activities, number of children, performance of the program in a controlled environment and it having been carried out by psychology students. According

to Barrett (2012) and Figueredo (in press) the active participation of caregivers in the program increases the effectiveness of the method for reducing anxiety symptoms. Participating in the parents' meetings and the final 10 minutes of each session with the children, the caregivers change their view of the children's negative behaviors, increase their comprehension of their children's anxiety and concerns, and decrease their own frustrations (Anticich et al., 2013). They also learn a set of strategies and tools for the development of a healthy family, with appropriate practices for the regulation of emotions, helping to strengthen and generalize the skills worked on in the program.

The repetition of the activities assists in the development and maintenance of a new repertoire, which usually takes two to three months to install (Barrett, 2012). For this the skills are reinforced both in the program groups and in the family environment. Cross-sectional skills, for example, being courageous and being happy, are practiced in all the sessions, as well as in the healthy living moment, and are present in the tasks that children carry out at home.

Regarding the place of implementation of the program and the number of participants, the promising results of the study indicate the effectiveness of the Fun FRIENDS program when applied in a controlled environment, such as the school-clinic, and with a small numbers of children in each group. However, it is necessary that the program be carried out other spaces, such as schools, Primary Health Units (PHUs), and in the Social Welfare Referral Centers (Centro de Referência de Assistência Social - CRAS), natural environments for access to the child and that may contribute to the identification of the effectiveness of the program. The performance of the program in these spaces also implies including a greater number of children than the amount included in the school-clinic, in the present work. Regarding the execution of the intervention, carried out by psychology students, it is possible that the expansion of the program could enable professionals and students from other areas of health and education to be the facilitators and provide the program in different

spaces. Since the children who participated in the program attended both public and private schools, it is possible to apply the method to all populations of children.

In relation to the construction of the present study, some limitations should be highlighted. The anxiety and depression symptoms, as well as the socioemotional skills of the children were only evaluated through the results of the tests and questionnaires answered by the parents. It should be mentioned that it would be interesting for other significant adults to also be questioned regarding the child's behavior, so that the views of the parents are not the only ones to be taken into account in the evaluation. Teachers, for example, could be part of the evaluation process since they are the professionals who spend most of their time interacting directly with the children in the school. Thus, teachers could contribute to the identification of children's behaviors, as well as to influence cognitive, affective and social aspects (Batista & Weber, 2015). For future studies, the use of other resources for analysis, such as the use of interview techniques and observation of the child's behavior in the natural environment, could also be used. Furthermore, the use of experimental methodologies with a control group could be important to understand the casuistry of the results of the present study.

The aim of this study was to evaluate the potential of the Fun FRIENDS program for the reduction of anxiety and depression symptoms and increase of socioemotional skills in a small city in the state of Paraná, Brazil. The results indicate the effectiveness of the program, in the Brazilian context, as a resource for the early prevention of symptoms of anxiety and depression, and as a strategy for general mental health promotion.

Authors' Contributions

Contribution to group management: (Letícia Maria Rinaldin Garcia)

Contribution to group supervision: Caroline Guisantes de Salvo Toni; Ana Priscila Batista.

Substantial contribution in the conceptand design of thestudy: Letícia Maria Rinaldin Garcia; Caroline Guisantes de Salvo Toni.

Contribution to data collection: Letícia Maria Rinaldin Garcia; Caroline Guisantes de Salvo Toni; Ana Priscila Batista.

Contribution to data analysis and interpretation: Letícia Maria Rinaldin Garcia; Caroline Guisantes de Salvo Toni; Ana Priscila Batista.

Contribution to manuscript preparation: Letícia Maria Rinaldin Garcia; Caroline Guisantes de Salvo Toni; Ana Priscila Batista; Larissa Zeggio.

Contribution to critical revision, adding intelectual content: Larissa Zeggio.

Conflicts of interest

The authors declare that they have no conflict of interest related to the publication of this manuscript.

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