v. 4, n. 51, 2024

International Journal of Health Science

KNOWLEDGE AND APPLICATION OF GMFM (GROSS MOTOR FUNCTION MEASUREMENT BY NEUROPEDIATIC PHYSIOTHERAPISTS)

Mikaelly Maia dos Santos Silva
Physiotherapist graduated by: ``Centro Universitário Christus`` (UNICHRISTUS)
Fortaleza, Ceará
http://lattes.cnpq.br/708344017761758

Maria Lyciane da Silva Oliveira
Professor at: ``Centro Universitário Christus`` (UNICHRISTUS)
Fortaleza, Ceará
http://lattes.cnpq.br/6997994515683461

Mara Marusia Martins Sampaio Campos
Physiotherapist at Hospital Complex of ``Universidade Federal do Ceará`` (UFC) / Brazilian Hospital Services Company (EBSERH) / Maternity school: Assis Chateaubriand (MEAC); Professor at: ``Centro Universitário Christus`` (UNICHRISTUS)
Fortaleza, Ceará
http://lattes.cnpq.br/6515305320777878

Maria Valdeleda Uchoa Moraes Araújo
Physiotherapist at ``Hospital Geral Cesar Cals`` (HGCC); Professor at: ``Centro Universitário Christus`` (UNICHRISTUS)
Fortaleza, Ceará
http://lattes.cnpq.br/7314440835465770

Lila Maria Mendonça Aguiar
Physiotherapist at the Hospital Complex of ``Universidade Federal do Ceará`` (UFC)/ Brazilian Hospital Services Company (EBSERH) / Maternity school: Assis Chateaubriand (MEAC)
Fortaleza, Ceará
http://lattes.cnpq.br/0550364998554069

Emília de Alencar Andrade
Physiotherapist at the risk monitoring outpatient clinic at: ``Hospital Geral de Fortaleza`` (HGF)
Fortaleza, Ceará
http://lattes.cnpq.br/8794265543139633

Inês Cristina Pereira Potrichi
Physiotherapist at the Hospital Complex of ``Universidade Federal do Ceará``; (UFC)/ Brazilian Hospital Services Company (EBSERH) / Maternity school: Assis Chateaubriand (MEAC)
Fortaleza, Ceará
http://lattes.cnpq.br/2100600735795627

Luciana de Sena Melo Veras
Physiotherapist at the Hospital Complex of ``Universidade Federal do Ceará``; (UFC)/ Brazilian Hospital Services Company (EBSERH) / Maternity school: Assis Chateaubriand (MEAC)
Fortaleza, Ceará
http://lattes.cnpq.br/1418831561314792

Jefté Silva Borges
Physiotherapist at the Hospital Complex of ``Universidade Federal do Ceará ``(UFC)/ Brazilian Hospital Services Company (EBSERH) / Maternity school: Assis Chateaubriand (MEAC)
Fortaleza, Ceará
http://lattes.cnpq.br/2942778824439795

Luan Nascimento da Silva
Physiotherapist at the Hospital Complex of ``Universidade Federal do Ceará``; (UFC)/ Brazilian Hospital Services Company (EBSERH) / Maternity school: Assis Chateaubriand (MEAC)
Fortaleza, Ceará
http://lattes.cnpq.br/2218632188500044

Daniela Uchoa Pires Lima
Physiotherapist at the Hospital Complex of ``Universidade Federal do Ceará`` (UFC)/ Brazilian Hospital Services Company (EBSERH)/ Maternity School: Assis Chateaubriand (MEAC)
Fortaleza, Ceará
http://lattes.cnpq.br/0913372177824754

Jamille Soares Moreira Alves
Physiotherapist at the Hospital Complex of ``Universidade Federal do Ceará`` (UFC)/ Brazilian Hospital Services Company (EBSERH)/ Maternity School: Assis Chateaubriand (MEAC)
Fortaleza, Ceará
http://lattes.cnpq.br/8477958626474245

Abstract: INTRODUCTION: The GMFM is a validated scale that was developed to quantitatively assess changes in the gross motor functions of children and adolescents. It is used by neuropediatric physiotherapists in their clinical practice and for scientific purposes. OBJECTIVE: To analyze the knowledge and application of GMFM by neuropediatric physiotherapists. METHODOLOGY: This is a field research, descriptive, exploratory of a transversal nature and with a quantitative approach. It was carried out on GOOGLE FORMS, through an online questionnaire. Neuropediatric professionals from Fortaleza participated in the research. RESULTS: The sample consisted of 40 participants, 95% female, 90% with specialization, 42.5% with training time between 1 and 5 years, 37.5% with more than 5 years of experience in the area. All participants reported knowing the scale, 60% knew it during their undergraduate studies. 55% of participants did not take the scale course, 72.5% of professionals apply it in clinical practice, 37.5% use the scale almost always and 75% do not use it for scientific purposes. The scale is most used in the assessment of children with cerebral palsy with 95%, 57% use the scale with another instrument, Among the participants 62.5% are confident when applying the scale, the application time was reported as the biggest obstacle with 42.5 %. The participants showed good knowledge about GMFM, among the five questions asked, it was found that in four, the majority of participants got the answers right. CONCLUSION: we concluded that although there is a prevalence of professionals who know the scale and apply it in the clinic, few professionals do not apply it for scientific purposes, which makes more in-depth studies on assessment instruments in the pediatric area difficult. It is suggested that future work be carried out to reinforce the importance of these professionals when applying the scale, having better knowledge and being more qualified, in order to publicize the importance of this instrument in the gross motor assessment of children with motor deficits.
Keywords: Assessment; Knowledge; Physiotherapists; Pediatrics.

INTRODUCTION

Ophysiotherapists who work in pediatrics need to be able to carry out an assessment that makes it possible to identify the existence of limitations and restrictions, as well as the potential of each child. This assessment must be carried out through the use of validated and reliable scales and/or tests, which allow the adequate measurement of disabilities and, thus, supporting a better interpretation of the findings found and a more assertive diagnosis (Moreira et al, 2022).

Assessment instruments are diverse and It is up to each professional to choose the most appropriate one to apply in their clinical practice, observing the population under analysis, the objectives with the test, as well as implications clinics and areas evaluated. Thus, these can contribute to the development of a more assertive treatment plan, allowing monitoring of the results achieved. Therefore, it is important that these resources are easily accessible and understood by professionals, thus enabling their applicability not only in scientific research, but also in care practice. (Pina Loureiro, 2006; Moreira et al, 2022).

Among the instruments used by physiotherapists in pediatrics, in clinical and scientific practice, are: the Denver II Development Test (Denver II), the Alberta Infant Motor Scale (AIMS), the Bayley III Infant Development Scale, the Inventory of Pediatric Disability Assessment (PEDI), the General Movements (GM), the Infant Motor Performance Test (TIMP) and the Gross Motor Function Measurement (GMFM), which have validation and reliability and

can assist in functional diagnosis (Moreira et al,2022).

The GMFM was developed and validated to quantitatively evaluate changes in the gross, dynamic and static motor functions of children and adolescents with cerebral palsy, Down syndrome and other less common pathologies. Initially composed of 88 items, the objective of which is to record the number of skills that the patient is capable of performing in each dimension contained in the scale. (Castro, Blascovi-Assis, 2017).

The elements observed are: lying and rolling (4 items), sitting (15 items), crawling and kneeling (10 items), standing (13 items), and walking, running and jumping (24 items), the patient is scored in each dimension is summed to obtain the total value, providing an overall guideline on the scale. The higher the patient's score, the better their gross motor function performance. This scale, as it is a numerical assessment, is not suitable for analyzing the quality of the movement performed (Melo 2011; Gomes, Araújo, Maciel, 2014).

The purpose of implementing this neonatal and pediatric physiotherapeutic assessment instrument is to detect changes in a systematic and accurate way, helping to define therapeutic objectives, but also for other purposes such as: controlling therapeutic evolution, providing information on progress in rehabilitation, comparing techniques and invasive procedures, or even decide on possible interventions for a patient (Gomes, Araújo, Maciel, 2014; Pina, Loureiro, 2006).

The GMFM can be used as a complementary instrument to other scales and tests, for example, the use of the GMFM with the gross motor classification system (GMFCS) and with the *Pediatric Evaluation and Disability Inventory* (PEDI), with the aim of analyzing the motor delay of diplegic, hemiplegic and quadriplegic children (Pina, Loureiro, 2006).

The GMFM-88 was revised and adapted to a new version with 66 items, the GMFM-66, with the aim of becoming a faster and better understanding tool, as it has good psychometric characteristics, in addition to providing a hierarchical organization, better reliability and shorter administration time, which can provide a better interpretation of motor development, exclusively for children with cerebral palsy (Pina and Loureiro, 2006; Melo 2011).

Even though the adaptation of the GMFM-66 has the potential to improve the care and monitoring of patients with motor complications, the information is not highlighted adequately, becoming an obstacle to the use and understanding of this instrument, which makes it difficult to use in clinical settings and for scientific purposes (Moreira et al, 2022).

Therefore, the general objective of this study was to analyze the knowledge and application of neuropediatric physiotherapists about GMFM. Furthermore, the difficulties encountered in applying the scale were identified, as well as the professional profile of physiotherapists working in pediatrics was outlined.

METHODOLOGY

A descriptive, exploratory, cross-sectional field research with a quantitative approach was carried out between August 2022 and February 2023.

The population consisted of neuropediatric professionals, the information was collected through an online form, built on Google Form, using the public social network application WhatsApp as a disseminator of the questionnaire. Professionals received the link https://docs.google.com/forms/d/e/1FAIpQLSf4-e1zdFkElmO4CiZXBfM7_ApQ0sLziPjJC9jgl4Txcy0dSw/viewform?usp=sf_link- the sending was carried out by the researchers.

All information was clarified and upon accepting to participate in the study, participants electronically signed the Free and Informed Consent Form (TCLE), available at the beginning of the form and on a mandatory basis to continue with the questions on the form.

The questionnaire was prepared by the researchers, consisting of 25 questions, four related to professional information (gender, maximum degree, length of training and length of experience), thirteen to verify knowledge about the scale, three on the obstacles encountered in applicability and 5 on the particularities of the Gross Motor Function Measurement (GMFM).

The data were tabulated in spreadsheets using the Microsoft Office Excel 2013 program and analyzed using Jamovi version 2.3.2, displayed in tables according to the study variable.

Data collection only occurred after the opinion and approval of the Ethics and Research Committee of Centro Universitário Christus with the following approval number: 5,789,031, following the ethical precepts of research involving human beings, which govern confidentiality, secrecy, anonymity, autonomy, beneficence, non-maleficence, justice and equity, regulated by Resolution 466/12 of the National Health Council/ Ministry of Health/ MS (BRASIL, 2013).

RESULTS

The research consisted of 40 professionals, who answered the questionnaire prepared by the authors. The professional profile sample consisted of 38 (95%) females and 2 (5%) males. Maximum specialization degree 36 (90%) and master's degree 4 (10%). Training time less than 1 year 1 (2.5%), between 1 and 5 years 17 (42.5%), between 5 and 10 years 11 (27.5%), between 10 and 15 years 3 (7.5%), more than 15 years 8(20%). Time working in the area less than 1 year 1 (2.5%), 1 and 2 years 10 (25%), 3 and 4 years 14 (35%) and more than 5 years 15 (37.5%).

Regarding the security that these professionals present when applying the scale, 25 (62.5%) responded that they have security. Among the obstacles reported by professionals who participated in the research to use the GMFM, there is the application time and the lack of a suitable environment to carry out the scale tests. The patient was listed as one of the biggest barriers. Table I shows the characteristics related to the application of the scale in clinical practice, according to the evaluation of the questionnaires (n=40).

Characteristics	**Frequency**	**%**
It has application security	..	..
Yes	25	62.5
No	15	37.5
Obstacles encountered	..	..
Application Time	17	42.5
Suitable environment	8	20.0
Scale interpretation	7	17.5
For other reasons	4	10.0
There are no obstacles	4	10.0
Barriers encountered	..	..
Patient	28	70.0
Physiotherapist	7	17.5
Institution	4	10.0
Team	1	2.5
Total	40	100.00

Table I: Features in applying the scale

Source: Direct search, on Google Forms, Fortaleza, Ceará, August 2022 to February 2023.

All participants reported knowing the GMFM as a motor assessment tool, 24 (60%) knew it during their undergraduate studies and 16 (40%) during their postgraduate studies. Regarding the scale course, 18 (45%) indicated that they did not take a course and 22 (55%) did. Regarding the use of the GAMAE program, 30 (75%) of the participants do not use it in clinical practice, only 10 (25%)

reported using it. Table II contains questions relating to the application of the scale.

Characteristics	**Frequency**	**%**
Used in Clinical Practice	..	..
Yes	29	72.5
No	11	27.5
Frequency you use	..	..
Ever	12	30.0
Often	15	37.5
Sometimes	13	32.5
Use for scientific purposes	..	..
Yes	10	25.0
No	30	75.0
Public that is most used	..	..
Cerebral paralysis	38	95.0
Down's syndrome	two	5.0
Use with another instrument	..	..
Yes	23	57.5
No	17	42.5
What instrument	..	..
Comparative	11	27.5
AIMS	9	22.5
GMFCS	3	7.5
DENVER II	two	5.0
Other Instruments	5	12.5
Not answered	10	25.0
When do you use	..	..
Prescribed conduct	18	45.0
In evolution	14	35.0
In all services	8	20.0
Total	40	100.00

Table II: Regarding application of the scale, according to the evaluation of the questionnaires (n=40).

Source: Direct search, on Google Forms, Fortaleza, Ceará, August 2022 to February 2023.

Regarding the participants' understanding of the scale, 18 (45%) highlighted the benefit of helping with therapeutic planning, 8 (20%) quantifying the degree of motor impairment and 14 (35%) in monitoring the patient's progress. TABLE III presents the participants' responses regarding knowledge of the scale. Participants showed good knowledge about GMFM, among the five questions asked it was found that in four, the majority of participants got the answers right. (correct answers in bold). For questions 1 and 3, related to the dimensions assessed in the GMFM, more than the majority of participants got 70 and 82.5% correct respectively.

	N (%)	N (%)
Questions about GMFM	No	Yes
1- Does GMFM have 4 evaluative dimensions?	**28(70)**	12(30)
2- The scoring system evaluates skills as: 0=does not start; 1=start; 2=partially complete 3=not complete; NT=not tested	**10(25)**	30(75)
3- The dimensions evaluated in the GMFM are only: lying down and rolling over, sitting and standing.	**33(82.5)**	7(17.5)
4- Was the scale designed to evaluate the quality with which the child performs an item in the dimension and not how much of an item they perform?	(65)	14 (35)
5- The professional may interrupt the test and do it later. However, you will not be able to test what has already been scored.	16(40)	**24(60)**

Table IV: Knowledge about the scale, according to the evaluation of the questionnaires (n=40).

Source: Direct search, on Google Forms, Fortaleza, Ceará, August 2022 to February 2023.

DISCUSSION

In the present study, we proposed to investigate the knowledge and application of GMFM by physiotherapists working in neuropediatrics. In the analyzed sample there was a prevalence of female professionals, corroborating the analysis carried out by Moreira et al. (2022), which demonstrated that there is a predominance of females in professionals working in pediatric physiotherapy.

In the study by Melo et al. (2020) who outlined the profile of professional child physiotherapists, where 9 (56.35%) had a maximum specialization and master's degree, consistent with our findings, as 36 (90%) of

the participants are specialists.

All participants in our findings reported knowing the motor scale, which can be evidenced in the study by Moreira et al. (2022), in which the GMFM was the instrument listed as the best known by neonatalologists and pediatricians and widely used in clinical practice., when compared to PEDI, TIMP and General Movements.

According to Rodrigues et al. (2019), in their research, presented significant data from 18 participants aged between 6 and 14 years, evaluated by the GMFM and the GMFCS, to demonstrate the differences in the gross motor function of patients with Cerebral Palsy with Hemiparesis, diparesia and tetraparesis. However, 30 (75.5%) of our participants do not use the scale for scientific purposes.

What differs from the data from Moreira et al (2022) in which a large percentage of professionals use it for scientific purposes and in care practice, which can be explained by the translation into Portuguese and the Brazilian sociocultural adaptation, facilitating the use of this instrument in scientific research. Most of these studies aim to characterize functional performance or analyze the effectiveness of physiotherapeutic protocols in children suffering from CP.

Professionals pointed out that children with cerebral palsy are the ones who use the scale the most, which is explained by the findings of Farias, Bárbara (2020) who reported that the prognosis of children with cerebral palsy can be influenced by the degree of motor impairment and can be classified and evaluated by specific instruments such as GMFM.

It is known that in cerebral palsy, the primary brain injury is permanent and non-progressive, but secondary changes can present with a set of disorders in posture, muscle tone and execution of movements, causing limitations in life activities. daily life such as dressing and eating and participating in society. As a result, the GMFM, as it is a specialized instrument for children with this condition, becomes so relevant (Rodrigues et al., 2019).

With this in mind, the authors, Pina, Luciana (2006) present that the GMFM is an instrument that assesses broad motor function, initially intended for children with cerebral palsy and that the scale is increasingly being chosen to compare clinical techniques and procedures. physiotherapists. Example of this, Catelli et al. (2019),revealed through a systematic review including 127 patients with CP, that the cycle ergometer, when compared to conventional physiotherapy and recreational exercises at school or at home, does not cause better benefits in motor function.

The study by Chagas et al. (2008), used the Gross Motor Ability Estimator (GMAE) software, which allows the calculation of the total score estimate and interpretation maps of gross motor skills, showing that its use in clinical practice is essential. However, in our data there was a higher prevalence of professionals who do not use the software system.

The insecurity and obstacles encountered in applying the scale can be explained by the study by Pina, Loureiro (2006), where the author concludes the work by reporting that some physiotherapists resist the use of validated measures, due to the prolonged time that these assessments require misunderstanding. of these methods and how to apply them.

In our data, the patient was found to have one of the biggest barriers found, which can be explained by the variability of children with CP and how these patients' responses to intervention are different, and can be influenced by family factors and each child's own characteristics., such as the degree of motor impairment (Fowler et al, 2010).

It was noticed in our study that 16 (40%) of the participants did not know the scale during their academic training period, which is not in accordance with the obligation to include validated tests/instruments specific to pediatrics in the child health curriculum, requiring there must be a review of the teaching method for the subject of pediatric physiotherapy (Guedes et al, 2013).

According to Melo (2011), knowledge of pediatric scales, which meet the diverse demands relating to the evaluated and studied population, becomes essential, since therapists must use important clinical tools to assess typical motor development and with changes in childhood, requiring the acquisition of manuals and specific training.

The results obtained, with regard to the various benefits that the scale provides, agree with the study by Chagas et al (2008), where the author concludes that the GMFM is an excellent indicator for evaluating the functional capacity of children with CP, being useful in guiding the planning of clinical interventions.

In the true or false alternatives, similarities were observed with what the authors Melo (2011) and Gomes (2014) state about the GMFM of the specific characteristics of the scoring scale, evaluative dimensions and the objective of the evaluation.

The GMFM was developed to allow a quantitative assessment of motor aspects, characterizing the level of functional performance of children affected with CP. It is a scale of five dimensions, the scores are made by percentages for each dimension, the higher they are the better the patient's motor performance will be (De Melo et al., 2020).

Assessment of the functional independence of gross motor function, using GMFM allows an objective and detailed construction of results, contributing to assistance to this population (Moreira et al.,2022).

Some limitations of this study must be highlighted. Firstly, there was little participation from professionals, due to reasons of time to answer the questions, although they were receptive when approached, but with no response to the form. Therefore, when designing the study, a lower than expected number of professionals was observed. Secondly, no published works were found on the topic that demonstrate the importance of preparing tests/instruments.

CONCLUSION

This study demonstrated the knowledge that physiotherapists have of GMFM and how to apply it in the area of pediatrics, which can contribute to professionals having greater knowledge of the existing limitations and difficulties.

The results presented in this study concluded that although there is a prevalence of professionals who know the scale, there is still a percentage of participants who do not apply it for scientific purposes. This makes more in-depth studies on assessment instruments in the pediatric area difficult.

Regarding the characteristics of the GMFM, professionals demonstrated good knowledge about the scale, helping to outline good directions for choosing assessments and planning clinical interventions, aimed at children with motor disorders. However, in relation to the obstacles encountered in the application, it was possible to verify that the lack of preparation and interpretation of the scale could make it difficult to apply, requiring more time to understand.

It is suggested that future work be carried out to reinforce the importance of these professionals, when applying the scale, having full knowledge, in order to publicize the importance of this gross motor assessment instrument.

REFERENCES

CASTRO, N.M.; BLASCOVI- ASSIS, S.M. Escalas de avaliação motora para indivíduos com paralisia cerebral: artigo de Revisão. **Caderno de Pós-graduação em Distúrbios do Desenvolvimento**., São Paulo, v.17, n.2, p.18-31, dez.2017. Disponível em: <http://pepsic.bvsalud.org/scielo.php?script=sci_abstract&pid=S1519-03072017000200003>. Acesso em: 18 nov. 2023.

CATELLI, Amanda Marques et al. Cicloergômetro na melhora da função motora grossa de crianças com paralisia cerebral: uma revisão sistemática com meta-análise. **Fisioterapia e pesquisa**, v.26, n.1, p.101-109, mar.2019. Disponível em: <https://www.scielo.br/j/fp/a/37VfvT6jNHrqdHGjPTLK9PL/?lang=pt>. Acesso em: 20 nov. 2023.

CHAGAS, Paula Silva de Carvalho et al. Classificação da função motora e do desempenho funcional de crianças com paralisia cerebral. **Brazilian Journal of Physical Therapy,** v. 12, n.5, p. 409-416, out. 2008. Disponível em: <https://www.scielo.br/j/rbfis/a/JzYvJMTrtkczJpRR5qP6hVH/> Acesso em: 20 nov. 2023.

DE MELO, Jordânia Abreu Lima et al. Elaboração e validação de protocolo de avaliação multidimensional para crianças com encefalopatia crônica vinculadas a um serviço de fisioterapia infantil. **Brazilian Journal of Development**, v. 6, n. 8, p. 59138-59152, ago. 2020. Disponível em:<https://ojs.brazilianjournals.com.br/ojs/index.php/BRJD/article/view/15154/12502> Acesso em: 20 nov. 2023.

FARIAS, Bárbara Helen Lima et al. Classificação da função motora grossa em crianças com paralisia cerebral assistidas por um centro especializado de reabilitação. **Brazilian Journal of Development,** v. 6, n. 4, p. 18385-18392, 2020. Disponível em: <https://ojs.brazilianjournals.com.br/ojs/index.php/BRJD/index >. Acesso em: 20 nov. 2023.

FOWLER, Eileen G. et al. Resistencia pediátrica e fortalecimento de membros (PEDAIS) para crianças com paralisia cerebral usando ciclismo estacionário: um ensaio clínico randomizado. **Fisioterapia**, v. 90, n. 3, p. 367-381, 2010.

GOMES, C.R.A.; ARAÚJO I.F.; MACIEL, S.C. Avaliação da função motora grossa pela GMFM pré e pós cirurgia ortopédica de membros inferiores em pacientes com paralisia cerebral. **Acta Fisiátrica**, São Paulo, v.21, n.1, p. 16-20, mar. 2014.

GUEDES, Maria José de Paula; ALVES, Nildo Batista; WYSZOMIRSKA, Rozangela Maria de Almeida Fernandes. Ensino e práticas da fisioterapia aplicada à criança na formação do fisioterapeuta. **Fisioterapia em Movimento**, v. 26, n.2, p. 291-305, jun. 2013. Disponível em: <https://www.scielo.br/j/fm/a/NwFYgkRn5Wr7Xr8LZtTLzQx/?lang=pt>. Acesso em: 20 nov.2023.

MELO, T. R. Escalas de avaliação do desenvolvimento e habilidades motoras: AIMS, PEDI, GMFM E GMFCS. In: CASTILHO-WEINERT, L.V; FORTI- BERLLANI, C. D. **Fisioterapia em neuropediatria**. 22 ed. Curitiba: Omnipax,2011. cap.2, p. 24-42.

MOREIRA, A. F. et al. Conhecimento e aplicação de testes e instrumentos de avaliação em fisioterapia pediátrica e neonatal**. Fisioterapia Brasil**, Salvador-BA, v. 23, n. 4, p. 538-550, abr./jun.2022. Disponível em: <https://www.convergenceseditorial.com.br/index.php/fisioterapiabrasil/article/view/5138> Acesso em: 20 de nov. 2023.

PINA, V. L.; LOUREIRO, A.P.O GMFM e sua aplicação na avaliação motora de crianças com paralisia cerebral. **Fisioterapia em Movimento**, Curitiba, v. 19, n. 2, p. 91-100, abr./jun. 2006.

RODRIGUES, Walter et al. Avaliação da função motora grossa em crianças com paralisia cerebral. **Revista da Universidade Ibirapuera,** São Paulo, v.18, n.18, p. 26-31, jul/dez. 2019.