

Preferences and Perceptions of School Children in Relation to New Styles and Colors of Dental Attire

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Abstract—New designs and styles of attire such as coats, hats, and masks, colored and with prints are emerging in the market and offered to healthcare professionals, and in many situations, the justification is aimed at minimizing the stress caused by the white coat and optimizing the child dental treatment. To Verify the preference and perception of schoolchildren in relation to the new color patterns of dental attire. Transversal Descriptive study, Quality Quantitative Approved by the Research Ethics Committee of Human Beings. The sample consisted of 748 students of both sexes, aged randomly selected in public and private schools in the city of Gurupi, in the State of Tocantins, Northern Brazil. The Study was conducted with an interview and test to schoolchildren. The children of public schools (50%) and private (46%) they preferred the traditional white coat and the most rejected was printed/colored coat. In the hat and mask the groups among schoolchildren presented a statistical difference for preference ($p > 0.05$). The mask rejected by children from private schools (70%) and public (84%) for being "ugly" was with an animal mouth. Children prefer the white color of coats, hats and masks, showing the selection by the traditional pattern, considering what would be "right" in their vision.

Keywords—Pediatric dentistry, Paramentation, anxiety.

I. INTRODUCTION

Dentists working with children seek to establish a friendly relationship to reduce patient fear and achieve collaboration To Dental treatment. Children often make judgments about their dentist based In Appearance, kindness, willingness to listen and Clinical Competence during appointment (AlSarheeda, 2011) [1]. Some children have afraid about specific procedures such as anesthesia or high-speed pen noise (Taani et al., 2005) [2], other children report anxiety associated to the techniques employed and to the dental environment (Ashkenazi et al., 2002) [3]. So, children that have positive interactions with the dentist will be less likely

to develop fear and anxiety (Munevveroglu et al., 2014) [4].

The Personal Protective Equipment (PPE) should be used in dental clinics and there is an association between patients 'preference for medical professionals' clothing, indicates calling that clothing plays an important role in establishing trust, security, and also empathy the doctor-patient relationship (Chung et al., 2012) [5]. White has always been the traditional color of use In the health area and settled as most recognizable symbol of the profession (Blumhagen, 1979) [6]. Doctors started using white coats at the end of the 19th century, with the goal of protect patient and medical cross contamination because the dirt were Easy visualization. Then, the coat white became a symbol of the authority of the art of healing (Wong et al., 1991) [7].

Currently, health professionals are seeking new colors and designs in the models of coat, hats, and masks, introducing prints and colors In the garment, believing that the white color can promote anxiety and child fear, due to "white syndrome". This Way, the marketing released commercially new designs and colors of clothing that are widely disclosed in social networks and media over the Internet. The current generation of dentists has believed that they are more attractive to children and professional many are Adopting this differential of the garment.

Due to the importance of the theme and the need to seek scientific evidence, this study aims to verify the preference and perception of schoolchildren regarding the new styles and colors of dental attire.

II. MATERIALS AND METHODS

This is a cross-sectional descriptive study, Quality Quantitative Carried out in the city of Gurupi, located in northeast region of Brazil. Gurupi is located in the watershed between the rivers Araguaia and Tocantins, latitude 11 ° 43 ' 45 "south and a longitude 49 ° 04 ' 07" West, at an altitude of 287 meters. Region of Bananal

Island, Legal Amazon, in the south of the State of Tocantins, Brazil. The municipality has an area of 28,445 square miles with a population of 76,755 People, data from the Brazilian Institute of Geography and Statistics. The research was approved by the Research Ethics Committee Of the University of Gurupi, with the CAEE: 54769716.7.0000.5518.

Were included 748 Children aged 7 to 12 years, of both sexes. The representative sample of the target population was randomly selected. Two public and two private schools were Randomly selected, as the municipality contained 31 public (7,244 students) and 4 individuals (670 students). Within the selected age group, the parents of 529 children

from public schools and 229 were randomly assigned to these schools. of private individuals.

The two examiners were previously calibrated to minimize variations between the different examiners (Kappa= 0,84). Data collection occurred in the school, through an individual interview.

The interview child addressed questions about dental history in relation to experience, fear and pain of the child. Shortly after, it was performed An exploratory, qualitative study, With The use of 3 car screens with photographs (Figure 1). Os cart Aces Had Images Plastics end with a size of 13 cm x 25 cm, Individualized: The (Medical Coats) B (Medical Caps) and C (Medical Masks).



Fig.1: Instruments presented for children in the form of Three Posters with pictures of garments. Cartaz A: Medical Coats; Cartaz B: Medical Caps; Cartaz C: Medical Masks.

The poster A (Medical Coats) has five pictures of coat: traditional white (1), Blue (2), white with colorful details (3), color print (4) and Green (5). The poster B (Medical Caps) has five types of bonnet: White (1), Tie Blue (2), colored print (3), disposable green (4), disposable white (5). The Poster C (Medical Masks) With five types of masks: white with smiling mouth design (1), disposable white (2), Green (3), colored print (4) and orange with animal's mouth (5). The figures of the coat, beanies and masks were Selected By the authors because they are being widely marketed and used by professionals in school clinics Dentistry (academics and teachers), public and

private offices (professionals).

In the test with images, a child pointed the finger to the coat figure she "preferred" that the dentist used in his dental care and reported the why of your preference. After was escorhid the coat she "no I'd rather that the dentist wore and also replied why of this response. Thus, it was repeated with the other two cards (B and C) respectively.

Data analysis was performed using the SPSS Statistical program (version 18). The clinical data and the information obtained through the questionnaires were described and the variables submitted to the test thurs-Square ($P < 0.05$).

III. RESULTS AND DISCUSSION

Tabela 1: Presentation in profile number and percentage Socio-demographic and children's dental history of public and private colleges (2017).

	Public		Private		Total	P-Value
Age	8.17 \pm 1.49		8,07 \pm 1.65			
	n	%	n	%		
Number of participants	519	100	229	100	748	
Female	267	51	128	56	395	0.261
Male	252	49	101	44	353	
Children's History						
With Dental Experience	341	65.7	189	82.5	530	< 0.0001 *
With Toothache Experience	302	58.1	101	44.1	403	0.0003 *
You're Afraid of a dentist	204	39.3	66	28.8	270	0.005 *
P-Value	0.0002*					

* Shi-square test with a significance level of $P < 0.05$.

Table 1 showed in number and percentage the profile Socio-demographic and dental history reported in the interview by the children. Regarding the age of children and gender, there was no significant difference between the students. The fear of the two groups in relation to the dentist was below 40%, and more Of Half of the public school children reported having felt toothache. Most

private school children had dental experience. The test thurs-Squared applied to the data of the child history, showed significant evidence at the level of 5% of there being an association between experiences, Pain, and fear reported by the schoolchildren With The fact that they belong to public or private schools ($\chi^2 = 16.8$; $P = 0.0002$).

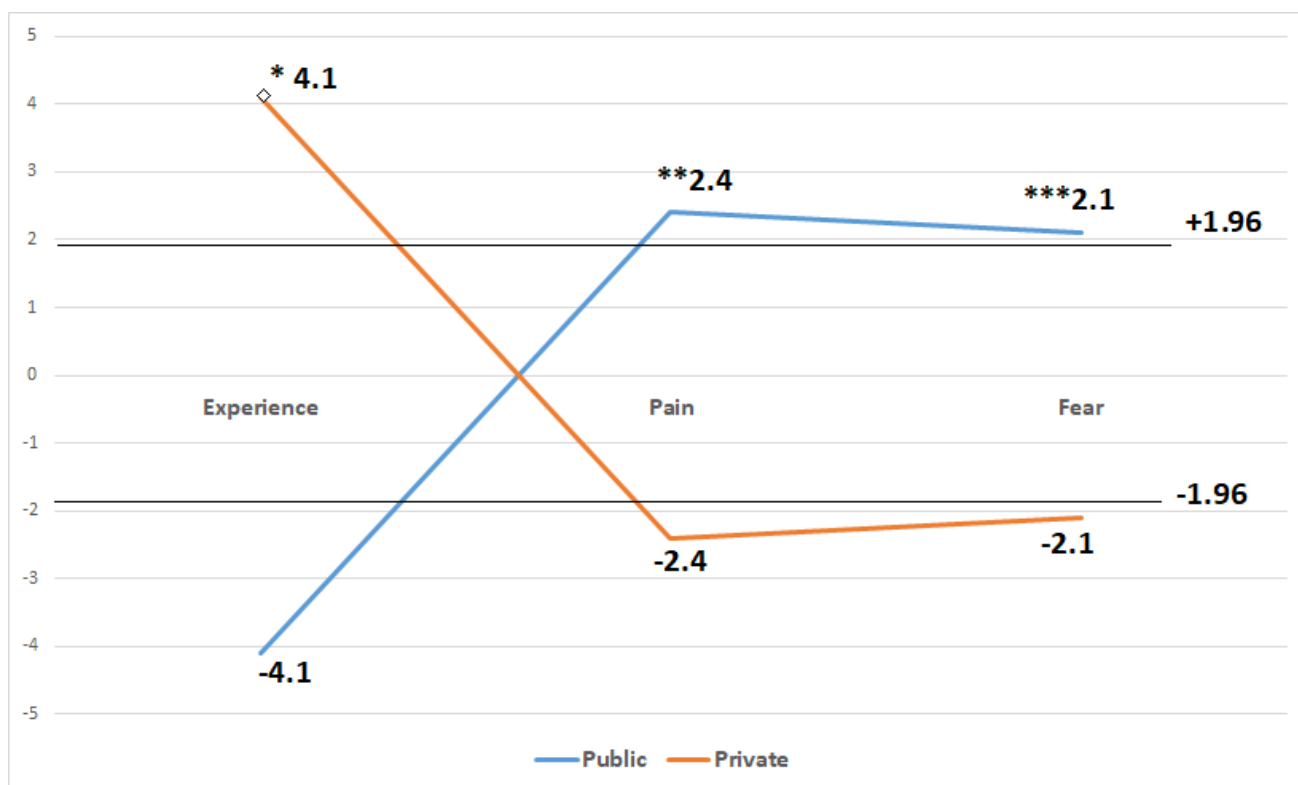


Fig.2: Adjusted residue Values (Raj) were calculated from the dental history data of children from public and private schools (Table 1). In the analysis of residues, the statistical criterion at the level of significance of 5%, which are positioned between the values -1.96 and + 1.96 were not considered statistically significant and thus express frequency values that would be expected Normally attributed to chance.

In this way, children from private schools had more experiences of nature dental (*Raj = + 4.1), students from the public network had higher experience of pain tooth and fear (* *Raj = + 2.4; ***Raj= + 2.1). The differences in these behavioral aspects of children from public or private

schools seem to be associated with some discrepancies that have been observed in the preferences garment of dentists. Table 2 shows the general result regarding the "preference" and "no preference" to the dentist's clothing by the schoolchildren.

Table.2: Shows the general result regarding the "preference" and "no preference" to the dentist's clothing by the school children.

	1		2		3		4		5		P-Value
Preference											
School	n	%	n	%	n	%	n	%	n	%	
Coat											
Private	105	46	25	11	35	15	33	14	31	14	0.74
Public	259	50	52	10	63	12	78	15	67	13	
Hat											
Private	25	11	18	8	79	34	8	3	99	56	0.004*
Public	109	21	52	10	131	25	20	4	207	40	
Mask											
Private	97	42	62	27	29	12	32	15	9	4	< 0.001 *
Public	109	21	198	38	88	17	114	22	10	2	
NO PREFERENCE											
Coat	n	%	n	%	n	%	n	%	n	%	
Private	5	2	51	22	26	11	112	49	35	16	0.32
Public	6	1	120	23	46	9	285	55	62	12	
Hat											
Private	18	8	57	25	52	22	41	18	61	27	< 0.003*
Public	37	7	187	36	98	19	109	21	88	17	
Mask											
Private	11	5	11	5	25	11	22	9	160	70	0.08
Public	35	6	6	1	25	4	30	5	423	84	

* Shi-square test with a significance level of $P < 0.05$.

In the demonstration of five images of the coats used by the professionals, the descriptive results showed that the children from public and private schools preferred the traditional white coat (n° 1) and the most rejected was printed/colored coat (n° 4). As for the choice of the bonnet, the children of the private school preferred the colored printed beanie (n° 3) and the public school was the disposable white (n° 5). The most rejected hat by the public and private school children was number 2 (blue cap, straight tie). The preference of the mask in private school was white with smiling mouth design (n° 1) But the children of the public school were white disposable (n° 2). The Rejected Mask Unanimously By the children of private and public schools was with animal/colored mouth (n° 5).

The test thurs-Squared applied to the frequencies of "Preference" And "No preference" Children from private schools, showed a significant correlation at the level of 5%, respectively, for a lab coat, Hat and mask ($p < 0.0001$), as well as in public schools ($p < 0.0001$). However, when

comparing the results of the "Preference" between private and public schools, nIt was found that there was no significant difference In relation to the Jaleco ($p = 0.74$), the school children preferred the traditional white coat (No. 1). In the bonnet and mask, the groups among schoolchildren presented a statistical difference for preference (p

> 0.05). Regarding the "non-preference" of school children in the public and private schools, they did not present statistically significant data in relation to the coat ($p = 0.32$) and the Mask ($p = 0.08$). Just The most rejected coat was printed/colored (No.4) and the Mask rejected by the vast majority of school children Was number 5 (Animal/colored mouth)

The justifications of the children before the options were categorized with keywords. The two most cited words in interview by both sexes were presented in table 3.

Table.3: Presentation Of the two words in order of highest citation in the interview by Children Female and male Public and private schools (2017).

	Preference	Rejected
Coat	Right And "Cute	"Not a dentist" and Ugly
Hat	"From the dentist" and "Cute	"Ugly" and "colorful"
Mask	Normal And Beautiful	"Ugly" and "fear"

IV. DISCUSSION

The appearance of the dentist assists in the professional patient interrelation, according to psychologists, because of the use of friendly colors for children, such as yellow and blue in the dental clinic assists in the collaboration (Umamaheshwari et al., 2013) [8] . Currently, the Evolution of fashion produced a Less formal aspect to the appearance of health professionals (Nirmala et al., 2015) [9].

In Brazil, children of higher socioeconomic status usually attend private schools, while those with lower socioeconomic status attend public schools (Martins et al., 2015) [10]. Children with families with higher incomes usually take children from an early age to the dentist, where in many cases they have fewer oral diseases and CoThey suffer less pain (Ciocca et al., 2015) [11]

. Most of the children in this study did not report being afraid to go to the dentist, perhaps by maturity or by establishing a relationship of familiarity with the professional, but the residual analysis of the statistical test Thurs-Square, Applied to the frequency data of the child history, showed evidence that the behavioral profile presented by the children depends on the type of school, whether public or private.

The younger the Children, The more they preferred the colored lab coats (Münevveroglu, 2014) [4]. Studies conducted with children aged 7 to 12 years have shown that in this age group they are able to more easily control fear, different from smaller children who are terrified of the unknown (Ellore, the et al., 2015) [12] . Even with a different dental history profile, the interviewed schoolchildren selected the white color of the professional garment, demonstrating that this color is not rejected by this age group from 7 to 12 years. The casual clothes were preferred in studies where it was found that the children were anxious (Asokan et al., 2016) [13] , with experiences of several passages in hospitals due to impaired health (Münevveroglu et al., 2014) [4] , When the child does not would Regular visits to dental clinics and With a history of Toothache (Mistry, Tahmassebi, 2009) [14] . Agreeing with the study of Zeren et al. [15] , which measured the

Preferential of lab coats in 500 children (5 to 11 years) And their parents, where the Most Them preferred that the Odontopediatricians wore white lab coats but Children with systemic disease, dental trauma due to previous negative experience, preferably am Informal clothing (common clothes), and concluded that the previous experience and systemic health have a strong effect on the preferences of children related to the dentist's attire.

Color has a compensator effect for the biological balance, And that people establish associations with the colors, which can Auxiliary in the Establishment of balance and contribute to the harmony of the body, mind, and emotions (Read, 2003) [16] . The 400 adults interviewed, with a mean age of 52.4, preferred that physicians wore white coats because they reported that it would be the form Professional Of Dress Up, offering greater confidence and credibility to the patient (Tibdewal et al., 2010; Chung et al., 2012) [5, 17] . More patients than dentists, and especially The adults, Believe that the dentist should wear white garments as differential for easy identification (Kelly et al., 2014) [18] .

A literature review (Kazory, Indme 2008) [19] , there was a decline in the popularity of the white coat among physicians. However, many patients and Professionals Still prefer conservative and less casual appearance for physicians. It is not surprising that this preference is related to age for both Patients and physicians. Many Avgkos believe they don't wear a lab coat White Increases the Risk of infection, But There is no evidence whether the white coat helps prevent the spread of infection. However Currently The white coat came to be seen as a barrier By Changes in society and health services, That transformed physicians into "health professionals" and patients into "consumers or customers" (Babadji et al., 2017) [20].

The choice of Dental attire is mandatory for professionals, as in addition to protecting it, it prevents infections secondary to patients. In View of the data demonstrated, In this study, The type of coat, cap and mask not Seems Influencer On the issue of Fear of children, since most children chose the traditional dress with white color.

The white syndrome refers to people who have a phobia of third-party clothing with predominantly white color. In Psychol- ogy, this fact is reported by people with great history of painful medical experience (McCarthy et al., 1999) [21] .

Is the responsibility of the professional to choose the color of the dress that will meet children, choosing colors or not. However, the regulatory Standards the National Health Surveillance Agency (Anvisa, 2011) [22] They argue that the garment should be prepared in clear tissues because thus, the dirt that will reach the odontologist during the procedures can be visualized With ease. Printed or colored

fabrics make this visualization difficult.

The data found in this research show that the dentist's attire does not cause fear in children. At this age, it seems that the children know that this is the coat of health area and accepts the traditional as standard, since they responded, in their vast majority, who preferred to be "the right", "normal" or "dentist". The approach of the child with smile in the physiognomy of the professional and the decorated environment were significant in the study by James J. McCarthy (1999) [21], in which he evaluated the visual perception and Children's Eager And Your Parents about doctors. It was noted that this public did not present Fear by white lab coats.

The two groups rejected the orange mask "With Animal mouth" for being considered frightening by the children, because they reported "fear", And were not attractive to the groups School. That you can observe is that the market launches Masks with strong colors, drawings of animal mouths, without verifying their acceptance by the children. As for the choice of the bonnet, it was believed that the option Three Would be more attractive to children by being colorful, but the result has chosen the traditional disposable white.

It seems that children at the age of 7 to 12 years old already have discernment regarding the Care and Biosafety, because most of them reported being "from the dentist". Age can influence this selection of colors because the tradition of the use of white color by health professionals can already be incorporated in the concept "health" of these children. The Variation of these results reflects the different opinions of patients in different countries and time periods. It is up to professionals to understand the child, not only in the technical attribution of academic training but also to perceive the psychological aspects that can help in attendance with collaboration, favoring the patient-professional relationship. New studies on the perception of the attire of younger children are suggested, which may reveal different results, due to the reason for perception and maturity.

It should be considered that the study was submitted to some limitations. When interpreting the results, it is important to note that only the cognitive component of the experience of fear and Pain tooth were questioned to school children. The children could be evaluated by other types of tests, to understand whether they would have anxiety for dental care, however, these schools did not have dental offices that allowed other more consistent tests.

Despite being emerging in the market several types of models and colors of coat, beanies, and masks on the market, it is essential to check whether this new trend has an effect on the perception of children, and that these new

proposals do not lose the true objective of the attire as personal Health Protection Equipment, which is biosafety.

V. CONCLUSION

A Preference of the attire coat, hat and mask odontological school was by the white color, demonstrating the selection by the traditional, considering that would be "right", "from the dentist" and "normal" in his visions.

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