



Language disorders in victims of domestic violence in children's homes

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ABSTRACT

Studies that deal with child maltreatment have become relevant during these past years. One important aspect to consider is the impact of maltreatment on the cognitive functioning and more precisely on language. Our objective is to analyze the different components in the comprehension and production of language in children victims of domestic abuse in Children's Homes.

Participants: The sample consists of 104 participants divided in two groups. A group of children who have just been institutionalized due to domestic abuse (VG) (Age: 8 years 2 months with a standard deviation of 1, 5 years) without previous treatment; a group of comparison (CG) made up by children who have not been victim of domestic violence (Age: 8 years 6 months with a standard deviation of 2 years and a month), with similar characteristics of gender, age and schooling.

Material: The Child Neuropsychological Assessment by Matute, Rosselli, Ardila and Ostrosky (2007) was applied. This test includes metalinguistic, oral and written comprehension and expression skills.

Results: The VG group showed low scores in all components of the analyzed language with exception to the discourse, syllable and non-word dictation compared to the CG children.

Conclusions: The alterations of the language observed in these children semantic suggest a lack of consolidation of phonological coding and a low use of code. From our findings an early language evaluation in these children can be of especial interest to apply timely intervention programs with the aim of diminishing the impact caused by domestic violence on school failure which is a frequent trait in these children.

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1. Introduction

In the fight against violence, there have been some advances in regard to it as it is the recognition of it as a public health problem rather than a domestic one (OMS, 2002). Such statement has been ratified in other countries (Campbell, Brown, & Okwara, 2011; Ojeda, 2010; Oweis, Gharaibeh, & Alhourani, 2009). Also, worldwide statistics about child abuse are alarming. Such statistics show that 6 out of 10 children (about 100 million) from ages 2–14 suffer from regular physical and psychological punishment by their caregivers, the father, the mother or any other relative in the family (UNICEF, 2014). This

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situation of domestic violence is usually caused by family members or intimate partners and frequently within the house. This situation affects directly the children who become victim of physical and/or psychological mistreatment, sexual abuse, and/or privation and neglect (OMS, 2002). Several researchers claim that for children, it is difficult to identify one type of violence in the family context as they are victims of polyvictimization. (Hulette, Freyd, & Fisher, 2011; Mennen, Kim, Sang, & Trickett, 2010; Radford, Corral, Bradley, & Fisher, 2013).

There is a broad description of the effects caused by child abuse in the physical (García, 2006; Lachica, 2010), the psychological (Calvete & Orue, 2013; Harding et al., 2013; Hulette et al., 2011) and the social domain (Alexander, 2011; Brietzke et al., 2012).

Neuroscience has enriched this field of study as it has demonstrated how child abuse affects the brain structure and its functioning (Mesa & Moya, 2011; Carrion et al., 2008; Wilson, Hansen, & Li, 2011). Such effects have been tightly related to alterations in the cognitive functions (Bücker et al., 2012; Carrion, Wong, & Kletter, 2013; Kale & Urbano, 2013; Shenk, Putnam, & Noll, 2013). Among the cognitive function effects, language, which is considered as the mediator of behavior and other cognitive functions (Escoriza, 2003), turns out to be the most affected one. Moreno (2005) claims that the speech component is altered in abandoned or emotionally abused children. Given this situation, children tend to show more learning and developmental problems (Cox, Kotch, & Everson, 2003; Mayer, Lavergne, Tourigny, & Wright, 2007). Pre-school children, who have been exposed to intimate partner violence, show a greater probability to develop difficulties in their speaking ability (Graham, Howell, Miller, Kwek, & Lilly, 2010). Sylvestre and Mérette (2010) found that the prevalence of alterations in language is dramatically higher in children with post-traumatic stress disorder (PTSD) than the population in general. Specifically, children sent to care homes due to domestic violence show considerable low scores in a phonological, writing and reading analysis (Fernández, 2014). Mertoğlu and Aydın (2012) carried out an investigation about the differences between domestic abused children who remain in their homes and those who have been taken to children's homes. The researchers point out that abused children in Turkish schools, who remained at home, did not show any relationship between the violence committed by their parents and their success in school. Other studies also emphasize that children in care homes show different characteristics to those who suffer domestic violence in their own homes. Such studies claim that learning problems are greatly present in children who enter children's homes (Mayer et al., 2007; Cox et al., 2003).

Historically, child care systems were born as a primary solution to kids who lack their parents' protection, and remain working to the present time (Ojeda, 2010). There have been studies in institutionalized children; however, such studies do not control the precise moment in which the neuropsychological assessment is carried out.

In this context, those studies can come up with biased results if children undergo a program of intervention. Having said the above, the present research aims at studying the aspects of oral, written comprehension and production of the language including the metalinguistic aspects of language in children who have been institutionalized due to domestic violence for a short period of time before the study began. Thus, we argue if children victim of domestic violence, who have been in a care home for a maximum of three months, show worse performance in tasks that evaluate expression, comprehension, meta-linguistic skills, reading and writing in comparison to children who have not suffered domestic violence.

2. Method

2.1. Participants

The present study consists of 104 participants divided in two groups. Group 1 consists of 52 male and female children (56% girls and 44% boys), with a mean age of 8 years 6 months ($SD=2.1$). The age range is from 5 to 12. The schooling level was between first and seventh grade of basic education with a mean of 4 ($SD=1.7$). 92.4% ($n=48$) are right handed and 7.6% ($n=4$) are left handed. These children do not suffer from domestic violence in their homes. The family revenue for this group of participants corresponds to the lowest income level according to INEC (National Statistics and Census Institute in Ecuador). All the participants in this group needed to meet the following inclusion criteria: to be between 5–12 years of age to study in the same school as the study group and to have similar socio-demographic conditions to fairly contrast the comparison group with the study group. Just like in the VG group, CG children showing a history of severe head injuries, epilepsy, neurological syndromes, childhood disintegrative disorders, psychosis, mental retardation or any other pathology that would prevent them from the evaluation will be excluded from the study.

Group 2, the group of children exposed to domestic violence VG is composed of children who have been institutionalized no longer than three months. They were admitted in an institution in the city of Cuenca–Ecuador (South America) in the period of July–December 2012. The group is made up of 27 girls and 25 boys, with an average age of 8 years 2 months old ± 1 , 5 years suffering of domestic violence. In the group, 1 child has suffered from psychological abuse, another suffered from psychological abuse and neglect, 6 have been victims of physical, sexual, psychological battering and neglect, 23 have been victims of psychological and physical maltreatment, according to the DSM 5. All participants in the study needed to meet the following criteria: to be between 5–12 years of age and have been admitted in the institution for suffering physical and/or psychological, and/or sexual abuse, and/or neglect to the extent that they could not remain in their own homes. The children needed to have been admitted in the last three months to avoid any influence over the time being in the institution, so that the evaluation is not affected by therapeutic processes. All the children meeting the inclusion criteria participated in the study. However, for the study, the researcher excluded children who showed a history of severe head injuries, epilepsy, neurological syndromes, childhood disintegrative disorders, psychosis, mental retardation, or any other

pathology that would prevent them from the evaluation. The domestic violence that these children suffer is characterized by its cross-generational aspect, which involves family fragmentation and dysfunction. 40% of these children witnessed and were direct victims of violence in their homes by their father, stepfather or the mother's partner. Thus, the mother and her children were sent to a home care with the aim of protecting them against the aggressor. During the time they were in the home care, it was common to see the mother's physical and psychological maltreatment against her own children. The other 60% of the children came from broken and dysfunctional families, where the father and the mother didn't provide the necessary care to their children. Thus this children were sent to the care homes by DINAPEM. This group of children showed bruises, skin illnesses, neglect and malnutrition. Among the factors associated with maltreatment were high alcohol consumption, lack of job and unstable housing.

This information was described by the Observatorio de los Derechos de la Niñez y Adolescencia from Ecuador. This institution came to the conclusion that there is a significant relationship between child maltreatment and alcohol consumption, low income, and even disobedience to their parents, which is actually the aspect that triggered violence at home. Additionally, the parents' drug abuse, especially alcohol, go hand with the findings from the ENDEMAIN survey, which identified 53, 4% of women suffering from domestic violence by their partners in the aforementioned situation.

As claimed above, polivictimization prevails in the study group reaching a percentage of 98,5%. This means that the children were involved in violent environments from pre-natal stages and throughout their development.

Regarding the social status to which the VG group belong to, the national survey about gender violence in Ecuador (2011) shows that violence can be produced at all income levels. However, the population of the present study is characterized for being in the first income level. That is, the income of these families come from craftsmen and street vendors, who are under or in the border revenue necessary to purchase a basic food basket.

2.2. Measuring instruments

The Evaluación Neuropsicológica Infantil (ENI) developed by [Matute, Rosselli, Ardila and Ostrosky \(2007\)](#) was used in the study to evaluate the language. The test included the following components: oral expression (repetition of syllables, words, non- words and sentences), oral recognition (picture naming), oral comprehension, (image recognition, following instructions, and speech comprehension), metalinguistic skills (phonemic synthesis, phoneme counting, spelling and word counting), reading (accuracy, comprehension and speed) and writing (accuracy, narrative composition and speed). The reason for choosing this test is that it was validated for Latin American people with a high correlation coefficient which ranges from 0.858 to 0.987 and includes a quantitative and qualitative analysis.

To conduct the study, the researchers informed the Ministry of Economic and Social Inclusion- Institute for Children and Families (MIES-INFA) for the corresponding permissions. People in charge of the children were asked to sign a consent letter. After, the children provided an oral consent to participate in the study. They were also told that they could drop the study at any time they felt so.

To select the comparison group, the researcher contacted the schools where the VG children attended to class. The authorities in the schools granted authorization both verbally and in a written form. A consent form was sent to the parents who gave their permission to allow their children to participate in the study. The historical records of this group of children were also reviewed. Their teachers were also interviewed as well as the personnel working in the psychology department to confirm the information. The children who met the study criteria were invited to participate.

In the first stage of the research, the children of both groups were interviewed. Their medical records were also analyzed to ascertain the meeting of the study criteria.

During the second stage, the study tests were applied.

2.3. Statistics analysis

The statistical analysis will be based on the hypothesis that children who are victims of domestic violence show lower scores in the tasks that evaluated language.

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To study the characteristics of both groups, the researchers began with an analysis of the distribution of the age variables, schooling level, gender and handedness. The Kolmogorov-Smirnov statistic tool was used to prove that the data was normally distributed.

The statistical package for Social Sciences (SPSS Inc, Chicago, IL, version 22.0) was used for the analysis of the data. The variables didn't present either a normal distribution or homogeneity ($p < 0,05$) according to the Kolmogorov-Smirnov (K-S) and the Levene tests. That is why the U-Mann-Whitney test was used to evaluate the relation in the results of the language tasks between the VG and the CG.

Table 1
Description of the participants' main socio-demographic data.

	VG (n = 52)		CG (n = 52)		U	P
	Mdn	IQR	Mdn	IQR		
Age	9	7–10	8	7–9	1186.5	0.28
Education level	4	2–5	4	3–5.75	1314	0.80
Sex	Freq.	%	Freq.	%	X²	P
Female	25	48%	29	56%	9.95	0.43
Males	27	52%	23	44%		
Handedness						
Right-handed	50	96,20%	48	92.40%	707	0.40
Left-handed	2	3,80%	4	7.60%		

VG: children exposed to domestic violence and CG: Comparison group.

Mdn = Median; IQR = interquartile range; n = simple size; U = U-Mann Whitney; X² = chi square.

Education Level = grade.

3. Results

Table 1 shows the participants' main socio-demographic data among which there is no difference in age, educational level, sex or handedness ($p > 0,05$).

3.1. Procedure

The current study takes into account the ethical APA rules and was revised and approved by the Doctoral Commission of the Basic Psychology, Psychobiology and Behavioral Science Department of the University of Salamanca-Spain.

To carry out this investigation, the researchers had several conversations with the Ministry of Economic and Social Inclusion-Child and Family Institute (MIES-INFA). The investigators asked for a list of care homes in Cuenca (Ecuador), which have operating license.

The permission for the study was granted by each of the listed care homes after a clear oral and written form explanation of the investigation. The care homes were selected according to the inclusion criteria. These care homes also offered the area for the study and organized a schedule for the evaluations, which was carried out by a doctoral candidate in clinical neuropsychology. After, a written consent was requested to the children representatives. An oral consent form was granted by the children. They were informed that they could drop the study whenever they wanted to.

Afterwards, the data needed for this study was obtained from children's medical records. An anamnesis with a child representative (mother, tutor or psychologist) was used to complete the information. This allowed the researchers to probe that the inclusion criteria was met. After, the infantile neuropsychological assessment was applied.

Three institutions were excluded due to the fact that the children did not meet the inclusion criteria. In the excluded institutions there were children who live in the streets. Children staying for a period longer than 3 months and children younger than 5.

On the other hand, to select the group of children who did not suffer from domestic violence, the researchers contacted the schools where the children attended first grade. The schools were asked in an oral and written form their authorization to work with some students. The parents of the selected children were asked to send a letter of authorization accepting their children's participation in the study. They also gave the researchers consent to verify the data that was in the children's profile in the schools.

Finally the researchers proceeded in the same manner as with the first group. The following results were obtained

3.2. Speaking: expression, comprehension and metalinguistic skills

As shown in Table 2, children who are victims of domestic violence, present lower performance in the tasks measuring repetition of words (syllables, words, non-words, sentences) and picture recognition with significant differences ($p < 0,01$). Likewise, children suffering from domestic violence show low scores in the tasks of image recognition and following instructions ($p < 0,001$). Such differences are not evident when the two groups of participants are compared in regard to *speech understanding*. Regarding the metalinguistic skills in speaking, there are also significant differences in the tasks among which there are phonemic synthesis, phoneme counting, spelling and word count. This shows that the VG participants got lower scores ($p < 0,01$), which shows our hypothesis

3.3. Reading: accuracy, comprehension and speed

Table 3 shows the results of the reading tests in relation to accuracy evaluated through *syllable reading, words, non-words and sentences*. The VG group shows significant low scores. ($p < 0, 05$). The analysis of the errors by substitutions, omissions,

Table 2
Speaking. Descriptive and comparative analysis between groups.

Speaking Expression	VG (n = 52)			CG (n = 52)			U	P
	Min-Max	Mdn	IQR	Min-Max	Mdn	IQR		
Repetition								
Syllables	1–8	7	6–8	5–8	8	7–8	879,00	,001 **
Words	4–8	7	6,25–8	6–8	8	7–8	934,50	,003 **
Nonwords	5–8	7	6–8	5–8	8	7–8	950,00	,005 **
Sentences	1–7	4	3–4,75	2–8	4	4–5	903,00	,002 **
Denomination								
Picture naming	3–15	9	7–11	6–15	10,50	9–12	897,00	,003 **
Comprehension								
Picture recognition	1–15	14,50	13–15	9–15	15	15–15	856,00	,000***
Following instruction	1–10	8	7–9	6–10	9	9–10	700,50	,000***
Speech comprehension	1–7	4	3–5	2–7	4	3–5	1174,00	0,24
Metalinguisticskills								
Phonemic synthesis	0–8	1	0–2	0–6	2	1–3	968,00	,001**
Phonemecount	0–8	3,50	0–6	0–8	5	3,25–7	941,00	,01**
Spelling	0–7	3	0–5	0–8	5	3,25–6	759,50	,000***
Word count	0–7	3	1–4	0–7	4	3–5	824,00	,000***

VG: Group of children victim of domestic violence; CG: Comparison group.

Min: Minimum; Max: Maximum; Mnd: Median; IQR: Interquartile range; U (U-MannWhitney).

Notes: * p < 0,05; ** p < 0,01; *** p < 0,001.

Table 3
Reading. Descriptive and comparative analysis between groups.

Reading	VG (n = 52)			CG (n = 52)			U	P
	Min-Max	Mdn	IQR	Min-Max	Mdn	IQR		
Reading accuracy								
Syllable reading	0–8	7	1–8	0–8	8	8–8	902,0	,001 ***
Substitution	0–1	,0	,0–,0	0–2	,0	,0–,0	1317,0	,692
Omission	0–3	,0	,0–,0	0–1	,0	,0–,0	1245,0	,173
Adding	0–2	,0	,0–,0	0–1	,0	,0–,0	1325,5	,55
Total number of errors in the syllable reading	0–3	,0	,0–,1	0–3	,0	,0–,0	1234,0	,289
Word reading	0–11	11	1,25–11	0–11	11	11–11	986,0	,004 ***
Substitution	0–1	,0	,0–,0	0–2	,0	,0–,0	1245,0	,173
Omission	0–1	,0	,0–,0	0–1	,0	,0–,0	1326,0	,56
Adding	0–2	,0	,0–,0	0–2	,0	,0–0,0	1274,0	,08
Non-word Reading	0–8	6	,0–,7	0–8	7	6–8	989,00	,015 *
Substitution	0–3	,0	,0–1	0–4	,5	,0–1	1097,50	,060
Omission	0–1	,0	,0–,0	0–1	,0	,0–,0	1322,00	,69
Addingg	0–2	,0	,0–,0	0–1	,10	,0–,0	1302,50	,49
Sentence Reading	0–10	9	,0–,10	0–10	10	,9–10	969,00	,007 *
Reading Aloud								
Substitutions	0–9	2	0–4	0–9	2	5–3	1263,00	,553
Omissions	0–3	,0	,0–1	0–14	,0	,0–1	1334,50	,890
Adding in the Reading	0–2	,0	,0–,0	0–2	,0	,0–,0	1347,50	,965
Errors in the passage in the Reading aloud	0–10	3,	,0–5	0–20	2,50	1–4	1247,00	,486
Reading comprehension								
Sentence comprehension	0–10	6	0–8	0–10	8	7–9	725,50	,000 ***
Comprehension of a passage when reading aloud	0–10	4	0–6	0–10	6	5–8	714,00	,000 ***
Comprehension of a passage in silent reading	0–10	2	0–4	0–10	3	1,5–5	1024,50	,031 *
Speed								
Words read (in min) of a passage aloud	0–104	51	,0–79	0–131	63	39,5–84,5	1054,50	,052 *
Words read (in min) of a passage in silent reading	0–178	50	,0–78	0–128	65	43,5–92	981,50	,016 *

VG: Group of children victim of domestic violence; CG: Comparison group.

Min: Minimum; Max: Maximum; Mnd: Median; IQR: Interquartile range; U (U-MannWhitney).

Notes: * p < 0,05; ** p < 0,01; *** p < 0,001.

adding in these tasks as well as in sentence and passage reading aloud does not show significant differences. The children victims of domestic abuse present in the comprehension tasks (comprehension of sentence reading, comprehension of a passage in reading aloud and in the comprehension of silent reading) important lower scores (p < 0,05). Likewise, the VG

Table 4

Writing	VG (n = 52)			CG (n = 52)			Z	P
	Mín-Max	Mdn	RIQ	Mín-Max	Mdn	RIQ		
Accuracy.								
Writing of the name	0–2	2	1,25–2	0–2	2	2–2	1139,50	,036 *
Syllable dictation	0–8	5	,25–7	0–8	6	5–7	1071,50	,064
Substitutions	0–3	,0	,0–1	0–3	1	,0–1	1020,00	,016*
Ommission	0–2	,0	,0–,0	0–2	,0	,0–,0	1268,00	,435
Word dictation	0–8	5	0–6	0–8	5	4–6	1047,00	,043 *
Substitutions	0–5	0	0–2	0–4	1,5	0–2,75	1087,00	,070
Omissions	0–4	0	0–2	0–6	1	0–2	1086,50	,066
Non word dictation	0–8	4	0–6	0–8	5	4–6	1068,00	,062
Substitutions	0–5	0	0–2	0–4	2	1–2	914,50	,003 ***
Omissions	0–4	1,00	0–2	0–3	1	0–2	1290,00	,67
Sentence dictation	0–8	10	0–14	0–8	15	11,25–17	711,00	,000 ***
Incorrect Word breaking	0–2	,0	,0–,0	0–2	,0	,0–,0	1301,00	,473
Word together	0–3	,0	,0–,0	0–2	,0	,0–,0	1275,00	,177
Capitalisation mistakes	0–5	1	,0–2	0–5	1	,0–2	1318,50	,819
Substitutions	0–11	,0	,0–3	0–5	2	,0–4	1029,50	,030 *
Omissions	0–5	,0	,0–1	0–3	,0	,0–1	1344,50	,957
Total number of mistkes	0–20	3	0–6	0–20	3,50	1,25–7	1147,50	,179
Copying a text								
Substitutions	0–6	,0	,0–2	0–5	,0	,0–1	1196,50	,26
Omissions	0–24	1,5	0–4,75	0–23	1	0–3	1307,50	,762
Mistakes	0–51	3	0–6,5	0–11	1	0–4	1284,50	,655
Narrative composition								
Narrative coherence	0–6	3	0–4	0–6	4	2–5	866,00	,001 ***
Words used	0–127	34	,0–79,75	0–149	65	17,75–88	1078,50	,074
Speed								
Number of words copied (in min) when copying a text	0–60	6,50	0–9	0–80	9,5	6–12	457,00	,00 ***

VG: Group of children victim of domestic violence; CG: Comparison group.

Mín: Minimum; Max: Maximum; Mnd: Median; IQR: Interquartile range; U (U-MannWhitney).

Notes: * $p < 0,05$; ** $p < 0,01$; *** $p < 0,001$.

participants require by far more time to perform the reading tasks for both reading aloud and silent reading of passages. ($p < 0,05$) (Table 3).

3.4. Writing: accuracy, narrative composition and speed

The results of the writing tasks are shown in Table 4. In all the tasks used to evaluate writing accuracy (name writing, word and sentence dictation), the children victim of domestic violence show a dramatic low score ($p < 0, 05$) except for the non-word and syllable dictation. In the latter two tasks, (syllable and non-word analysis) and in sentence dictation, the VG group show less *mistakes in substitutions* ($p < 0, 05$). About the narrative composition, the VG group showed low scores in the narrative coherence task ($p < 0,001$), but not in the total *number of words used*. This group requires more time to copy a text ($p < 0,001$), (Table 4).

It is worth a say that all uncompleted tests were excluded to analyze the results.

4. Discussion

In speaking, the children who are victims of domestic violence, obtained lower scores than the expected ones in expression, comprehension and metalinguistic skills, with exception to speech comprehension which is a task that involves a higher level of complexity. Our results are in line with speaking deficits in pre-school children who are victims of partner abuse (Graham et al., 2010). It is worth mentioning that the prevalence of language deficit in children with Post-traumatic stress disorder (PTSD) (Moreno, 2005; Sylvestre & Mérette, 2010). This piece of information is related with the fact that speaking is learned before children enroll in primary school in most countries. (Rosselli, Matute, & Ardila, 2010), that is, in their family environment.

Our results are similar to those obtained by Fernández (2014), who found that lower scores with statistical significance in the tasks of phonological analysis, writing and reading among institutionalized children due to maltreatment. Similar results were obtained by Flores, Reyes, Aguilar, García and Cruzaley (2012), who emphasize the academic failure that these children suffer.

This aspect is understandable due to the fact that the environment that surrounds VG does not encourage language development. As a consequence, the difficulties shown in speaking bring limitations in other cognitive functions, especially in reading and writing. (Heckman, 2007; Romero, García, Ortega, & Martínez, 2009; Vygotsky, 1928/ 1997).

Regarding the tasks that evaluate accuracy, comprehension and speed in reading, the scores of the children in the VG group were significantly lower in relation to those in the CG group. These facts reinforce the investigations by Bückner et al. (2012) and Mayer et al. (2007).

As far as the analysis of the mistakes (substitutions, omissions, adding) in reading, there are no significant differences between syllable and word reading. Moreover, by looking at the table, the number of substitutions in the non-words reading, the VG group presents a lower number of mistakes.

It is important to consider the underlying theories of phonological awareness. The learning of the phonological coding is the result of the selection (analysis and synthesis) in the pitch under the influence of the spoken language of adults. The first semantic code begins with the apprehension of the first meanings within the family environment and continues in the school years and even in adulthood (Azcoaga & Peña, 2011). The VG children haven't accomplished neither a good phonological nor a semantic coding development. This is the reason why this group of children faces problems in accuracy and tries to answer from the semantic memory which is evident in the non-word reading. This fact explains why the participants in the CG group do better in comprehension and speed in reading.

Similarly, in the tasks that measure writing accuracy, lower scores in the VG group were found in tasks such as writing the name, word and sentence dictation. However, in the syllable and non-word dictation, the results were the expected ones. The low scores are consistent with the studies by Bückner et al. (2012); Cox et al. (2003) and Mayer et al. (2007).

Nevertheless, the similarity in the results obtained in the syllable and non-word dictation would reinforce the theory already explained in the reading analysis about a higher use of the phonological code of the VG participants. This conclusion is reinforced by the difficulties found with the children victim of domestic violence when performing the tasks of narrative coherence and speed in copying. The study shows that children in the VG group present alterations during their early childhood. The analysis of the mistakes in reading and writing ratify the deficit of metalinguistic skills, the effort to use the phonological code showing that the semantic awareness in the VG group has not been reached yet. In the same way, Cox et al. (2003) found that the institutionalized children got lower scores than the general population. We insist that skills that depend on experience such as reading and writing rely on the availability of key learning and support experiences provided by an adult (Shonkoff & Richter, 2013), which are experiences that the children in the VG group lack. The results also show that the damage in the basic elements of the language in the VG group affects future processes. This principle mentioned by Vygotsky (1928/ 1997) has been a key reference in subsequent studies (Giza, Mink & Madikians, 2007; Luria, 1978; Quintanar et al., 2008) that show the limitations that these children have to acquire the necessary skills to learn. The studies mention that these children often become a risk factor to continue in a cycle of violence rather than reaching out of it. This is a good reason to apply the neuroscience knowledge to this area to improve the quality of attention given to the children who are admitted in institutions due to domestic violence (Carrion & Hull, 2010; Fox & Shonkoff, 2011).

One aspect that has been carefully controlled in the present research in regard to previous studies is the fact that the children participating in this investigation have been evaluated during the first three months after being admitted in an institution. A longer period of time in the institution could interfere with the linguistic processes of the child. Besides, the fact that they are not subjects of psycho rehabilitation programs or therapeutic support allow us to have a more objective view of the situation of the language in these children.

Based on the present results, we believe that it would be of especial interest to make an evaluation of the language in the early years of childhood to monitor with a certain degree of rigor the changes produced in the language, so that these children can undergo efficient stimulation programs to influence the school failure that these children show. (Fernández, 2014; Flores et al., 2012)

4.1. Limitations of the study

The limitations concur with the ones found in other studies (Wilson et al., 2011; Pisella et al., 2012) Thus, the results of our investigation cannot be generalized as they belong to a specific sample in the city of Cuenca. Another limitation in the study is the wide age range, 5–12 years of age of the participants; however, similar ages have been considered in other studies such as the study carried out by Bückner et al. (2012). We must also clarify that the high polivictimization that these children suffer did not allow us to analyze the results according to the types of abuse. Additionally, polivictimization, which was found among the participants in the study, confirms the investigations of other authors (Hulette et al., 2011; Mennen et al., 2010; Radford et al., 2013)

This research fails to identify the level of emotional affectation in these children produced by the abuse as it was not the objective of this research.

5. Conclusions

Children who suffer domestic violence show lower scores in language tasks that are acquired in early developing ages. The researchers also observed difficulties in the consolidation of the phonological and semantic codes, which is later acquired.

This means that the family environment in which the children live does not allow an adequate language construction, which will limit these children's cognitive development.

To address this problem, it is necessary to design public policies that allow early interventions in children who are at risk.

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