Original Article

Construction of Structured Arabic Aphasia Caregiver Guide and Studying its Effectiveness in Improving Caregivers' Awareness and Communication with their Aphasic Patients

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ABSTRACT

Background: The aim of this study is the development of a structured Arabic Aphasia Caregiver Guide to investigate how this guide would be effective in improving caregivers' communication with their aphasic patients.

Patients and Methods: Arabic Aphasia Caregiver Guide booklet was constructed and 10- expert phoniatricains evaluated it. Sixty patients with aphasia were enrolled in this study, they were divided into two groups, group I (cases group) and group II (control group), with 30 patients in each. Both groups were evaluated by the Arabic version of the Comprehensive Aphasia test twice, pre-therapy and three months after with the application of the conventional language therapy sessions in between (2 sessions/week/3m). Caregivers of patients in group I received sessions to educate them on the Arabic aphasic caregiver's guide booklet. Caregivers of group I were asked to answer the aphasia caregiver questionnaire before and after the family education sessions (1 session/week for about six weeks).

Results: The aphasia caregiver questionnaire reported improvement in the caregiver's awareness regards aphasia and communication with their aphasic patients. The Arabic version of the Comprehensive Aphasia test reported improvement in language modalities among the participating patients, with statistical significance improvement results of subtests of repetition, naming, and reading in group I compared to group II.

Conclusion: Targeting caregivers of aphasic patients with the Arabic Aphasia Caregiver Guide booklet helps in improving caregivers' communication with their aphasic patients.

Key Words: Aphasia, caregiver awareness, caregiver education, caregiver guide.

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INTRODUCTION

Aphasia is an acquired neurogenic language disorder caused by an injury in the brain and causes varying degrees of impairment in language expression and/or comprehension.[1]

Traditionally, aphasia rehabilitation has focused primarily on direct treatment of the patient with aphasia (PWA) to decrease the severity of the language impairment and improve functional communication. Environmental approaches that involve modifying the communication environment have recently been introduced to facilitate communication in aphasia.[2] This is because achieving communicative success with a person who has a communication disorder depends not only on the abilities and strategies of the person with the disorder but also on the abilities and strategies of the people with whom he communicates; including caregivers and significant others; to enhance and expand the network of supportive people in a person's environment to continue recovery and ensure maximal generalization of progress to everyday use in naturalistic environments.[3]

Caregiver training is a form of environmental intervention in which people around the person with aphasia learn to use strategies and communication resources to aid the individual with aphasia.[2,4] Although close family members and spouses can provide support and also facilitate communication[5] yet most caregivers do not have enough education about how properly they should care for their aphasic patients.[6] Therefore, informational support is crucial in helping caregivers from the initial diagnosis of aphasia to the long-term adaptation to life with the disorder.[7] Information can include education regarding the aphasia diagnosis, communication strategies, information concerning the prognosis, and specific resources for supporting, and training a PWA.[8,9] Aphasia education enables family caregivers to understand the patients and to know how best to communicate with them for effective and efficient care.[10]

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Family-oriented interventions may include family counseling, communication partner training, or educational programs.[11] Examples of those educational programs are Supporting Partners of People with Aphasia in Relationships and Conversation (SPPARC),[12,13]Conversation Partners Programme/Scheme[14,15], Patient-Centred-Communication Intervention (PCCI)[16,17] Opening doors – a family education program,[18] Better Conversations with Aphasia (BCA)[19,20] and Communication therapy for PWA and their partners (APPUTE).[21]

One of the common aphasia caregivers' guides in the English language is "The Aphasia Caregiver Guide" by the National Aphasia Association.[22] It informs caregivers about aphasia, its types, and how to be a successful caregiver and introduces them to communication tips for successful communication with their patients. To our knowledge, there are no structured guides for aphasic patients in the Arabic language. Thus, the need for such a guide is the motive for this study. This guide will help caregivers in Arabic-speaking countries to successfully communicate with their aphasic patients.

PATIENTS AND METHODS:

2.1 Ethical consideration

Informed consent has been obtained from the participants recruited in the current research. The confidentiality, as well as the privacy of participants, were guaranteed. During the study design process, deceptive methods were excluded. The subjects had the option not to complete the research at any time. The Ain Shams Institute's Ethical Committee of Human Research approved this research (reference number; FWA 000017585). The current study received the approval of the Research Ethical Committee of the Faculty of Medicine, Ain Shams University, the approval number is FMASU M D 235/2020.

2.2 Study Design

This study was conducted from October 2020 to May 2023. The first part of this study aimed to construct the Arabic Aphasia Caregiver Guide booklet, which is an educational booklet for caregivers of patients with aphasia. The second part was an analytical, observational prospective case-control study aimed to explore to what extent the Arabic Aphasia Caregiver Guide booklet is effective in educating caregivers on how to communicate with their patients. This was evaluated by the Aphasia Caregiver Questionnaire which was constructed specifically for this study. Also, this study measured to what extent educating caregivers with the Arabic Aphasia Caregivers Guide booklet was reflected in improving the aphasic patient's communication skills assessed by the Arabic version of the Comprehensive Aphasia Test "CAT".

2.3 Patients' Selection

Patients with aphasia (60 in number) were conveniently selected from patients who recruited to the outpatient clinics of phoniatrics unit and neurology department of Ain Shams University Specialized Hospitals and phoniatric unit of Hearing and Speech Institute. Patients were divided into 2 groups, group I (cases group) and group II (control group), with 30 patients in each. The aphasic patients in the case and control groups were selected to be neurologically stable, conscious, aware, and oriented to time, place, and persons, and suffering from aphasia for less than 2 years ago. Aphasic patients with any associated physical limitation that interferes with regular attendance to the therapy sessions were excluded. The family caregivers of the aphasic patients in the cases group were aged 18 - 60 years old. Caregivers should spend most of the time (at least 8 hours/day and at least 5 days/week) caring for the aphasic patient to be included in this study. Illiterate caregivers and those who had a problem contacting the phoniatricain by phone were excluded.

2.4. Methods

The aphasic patients in the cases and control groups were diagnosed and selected according to the protocol of assessment of patients with aphasia at the Ain Shams University Phoniatrics Unit[23] which passed through comprehensive and systematic history-taking and clinical examination (general, aural-oral tract, neurological and cardiovascular examination). The participating patients were evaluated by non-verbal psychometric tests such as the Progressive Matrices Test and Snijder-Oomen Non-Verbal Intelligence scale. The language of the participating patients was evaluated by the Arabic version of the comprehensive aphasia test (CAT)[24] before and after receiving language stimulation sessions. Patients who did not have a recent CT scan or MRI brain were asked to do it.

The caregivers of group I (cases group) were educated on the constructed booklet of the Aphasia Caregiver Guide. It consists of four sections; the first section is general knowledge about aphasia as the meaning of aphasia, its causes, types, symptoms, diagnosis, and management. The second section is composed of the familiar repeated questions asked by the caregivers of people with aphasia to give them appropriate answers, and the third section is composed of the different facilitating strategies that could be used by the caregivers to facilitate their communication with their patient with aphasia. The last section is containing examples of language stimulation exercises that could be applied at home. All contents of these sections are introduced in a suitable amount that achieves the target without being boring for the reader.

The aphasia caregiver questionnaire was developed to assess the effectiveness of this guide and it contains questions about how this guide enriched their knowledge about aphasia, and to what extent it helped them to improve the communication skills of their patients. It consists of two parts the first part is answered twice pre and after the caregiver education sessions and consists of two types of questions (section one is multiple choice questions and section two is “yes or no” questions) and the second part is answered once after reading the booklet at the end of the sessions to evaluate the opinion of the caregivers about the booklet and consists of three types of questions; section one is rating questions on the Likert scale, section two is multiple choice questions and section three is “yes or No” questions.

Statistical Analysis

The collected data was revised, coded, demonstrated in tables, and introduced to a PC using Statistical Package for Social Science (SPSS 25). Data were analyzed according to the type of data obtained for each parameter. Mean, Standard deviation (± SD), and range for parametric numerical data, while Median and Interquartile range (IQR) for non-parametric numerical data and Frequency and percentage of non-numerical data of the numerical data were calculated.

The Student T- Test was used to assess the statistical significance of the difference between the two-study group means. The chi-Square test was used to examine the relationship between two qualitative variables. Fisher’s exact test was used to examine the relationship between two qualitative variables when the expected count is less than 5 in more than 20% of cells. Paired t-test was used to assess the statistical significance of the difference between two means measured twice for the same study group (*p-value* level of < *0.05* is significant).

RESULTS:

Table 1 shows the mean and standard deviation of age, gender, type of aphasia, and time post-onset among the two studied groups of aphasia patients. There was a non-significant statistical difference between them. (Table 2) shows the demographic data of the caregivers of the cases group.

Results of the Aphasia Caregivers Questionnaire pre and post-family education sessions and comparison between them using paired t-test were shown in (Table 3 and Figure 1). There was a statistically significant difference among the answers of the Aphasia Caregivers Questionnaire pre- and post-family education sessions, with a *p-value <0.001*. This indicates the effectiveness of the Aphasia Caregiver Guide booklet in increasing the awareness of the caregivers towards aphasia and improving caregivers' communication with their aphasic patients.

Table 4 and Figure 2 show the number (%) of caregivers who answered questions from the 3 sections of part II of the Aphasia Caregiver Questionnaire. This reflects caregivers' satisfaction with the booklet and how this booklet affected their communication with their patients with aphasia. Table 5 shows scores of each item of the Arabic version of CAT among the cases and control groups pre- and post-language rehabilitation sessions and family education sessions of the cases group and comparison between them using the paired t-test. It was revealed that the cases group shows a statistically significant improvement in all items of the Arabic version of the CAT test compared to the control group which reported significant improvement among all items except the reading. Table 6 shows the scores of comparing the difference in improvement among the two studied groups (cases and control groups) regards the scores of modified CAT post-therapy, there were statistical significance differences regards repetition, naming, and reading in favour of the cases group

Table 1: The demographic and descriptive data of the aphasic patients in the 2 studied groups (cases and control groups):

		Groups		Test of significance		
		Cases (n=30)	Controls (n=30)	*Value*	*p-value*	Significance
Age (in years)	Mean ± SD	45.33 ± 12.65	49.03 ± 11.45	t-*= 1.188	0.24	NS
	Range (min – max.)	18-67	24-67			
Gender	Male	17 (56.7%)	21 (70%)	X2**= 1.148	0.284	NS
	Female	13 (43.3%)	9 (30%)			
Type of dysphasia according to the CAT test	Mixed	9 (30%)	10 (33.3%)	Fisher’s Exact test	1.00	NS
	Expressive	5 (16.7%)	4 (13.3%)			
	Mixed with apraxia	3 (10%)	2 (6.7%)			
	Mixed with deterioration of cognitive abilities	13 (43.3%)	14 (46.7%)			
Time post onset (in months)	Mean ± SD	6.1 ± 5.62	6.45 ± 6.67	t-*= 0.22	0.827	NS
	Range (min – max.)	1-24	1-24			

*t-: Student t-test of significance (t-), **X2: Chi-Square test of significance NS: non-significant

Table 2: The demographic and descriptive data of the caregivers of the cases group.

Age (in years)	Mean ± SD	Range (min. – max.)
	42.87±11.88	23 – 60
Degree of the relation of the caregiver (Number, %)	Wife	10 (33.3%)
	Spouse	3 (10.0%)
	Mother	4 (13.3%)
	Sister	4 (13.3%)
	Brother	3 (10.0%)w
	Daughter	2 (6.7%)
	Son	3 (10.0%)
	Friend	1 (3.3%)
Social standard (Number, %)	Low	2 (6.7%)
	Intermediate	23 (76.6%)
	High	5 (16.7%)
Level of education (Number, %)	Low	2 (6.7%)
	Intermediate	15 (50.0%)
	High	13 (43.3%)

Table 3: Scores of caregivers on part I of the Aphasia Caregivers Questionnaire pre and post the family education sessions and comparison between them using paired t-test.

Scores of Part I of the Aphasia Caregivers Questionnaire (N= 30)				
		Mean ± SD	Median (IQR)	Range
Section 1	Pre-session /20	14.13 ± 2.97	15 (12 - 16)	(7 - 19)
	Post-sessions	18.97 ± 1.56	19.5 (19 - 20)	(13 - 20)
	*p-value**	*<0.001* (S)*		
Section 2	Pre-sessions/10	5.97 ± 1.92	6 (4 - 8)	(3 - 9)
	Post-sessions	9.07 ± 1.17	9 (9 - 10)	(6 - 10)
	*p-value**	*<0.001* (S)*		

*Paired t-test, *p-value <0.05* is significant

Table 4: Scores of part II of the Aphasia caregivers' questionnaire.

Part II of the Aphasia caregivers' questionnaire					
Section 1		1 (Worst) N (%)	2 N (%)	3 N (%)	4 (Best) N (%)
Q1	Is the booklet easily understood?	0 (0%)	2 (6.67%)	4 (13.33%)	24 (80%)
Q2	Is the size of the booklet appropriate?	0 (0%)	2 (6.67%)	2 (6.67%)	26 (86.67%)
Q3	Is the presented information in the booklet new to you?	0 (0%)	0 (0%)	6 (20%)	24 (80%)
Q4	Is the needed information easily accessible inside the booklet?	0 (0%)	0 (0%)	6 (20%)	24 (80%)
Q5	Regarding the instructions presented in the booklet, are they easily applied?	0 (0%)	2 (6.67%)	12 (40%)	16 (53.33%)
Q6	Could the home-based exercises presented in the booklet be easily applied?	0 (0%)	2 (6.67%)	8 (26.67%)	20 (66.67%)
Q7	Did the booklet help you improve communication with your patient?	2 (6.67%)	0 (0%)	2 (6.67%)	26 (86.67%)

Section 2		Yes N (%)	Somewhat N (%)	No N (%)
Q1	Did the booklet answer most of your questions about aphasia?	17 (56.67%)	13 (43.33%)	0 (0%)
Q2	Does the booklet help you change how you deal with your patient?	22 (73.33%)	8 (26.67%)	0 (0%)
Q3	Does applying the instructions and the home exercises presented in the booklet help improve communication with your patient?	24 (80%)	6 (20%)	0 (0%)
Section 3			Yes N (%)	No N (%)
Q1	Was the patient able to read the booklet (If the patient's reading abilities haven't deteriorated after aphasia)?		3 (10%)	27 (90%)
Q2	If the patient read the booklet did, he get benefit from it?		3 (10%)	27 (90%)
Q3	Do you recommend other aphasic caregivers read this booklet?		30(100%)	0(0%)

Table 5: Scores of each item of the CAT among the cases and control groups pre and post-language rehabilitation sessions and family education of the cases group and comparison between them using the paired t-test.

Scores of the CAT (mean ± SD)						
	Cases (n=30)			Controls (n=30)		
Items of CAT	Pre	Post	*p- Value*	Pre	Post	*p- Value*
Memory	49.17 ± 11.76	54.37 ± 9.7	*<0.001**	46.33 ± 9.68	53.7 ± 8.18	*<0.001**
Cognitive	47.93 ± 9.66	54.67 ± 11.2	*<0.001**	47.07 ± 9.55	54.77 ± 8.76	*<0.001**
Comprehension of spoken language	42.67 ± 8.39	48.43 ± 9.59	*<0.001**	40.97 ± 9.79	46.67 ± 8.97	*<0.001**
Comprehension of written language	48.09 ± 7.01	52.86 ± 7.01	*0.001**	44.05 ± 8.03	47.57 ± 7.35	*0.001**
Repetition	51.2 ± 7.69	55.77 ± 7.38	*<0.001**	48.77 ± 6.34	50.63 ± 6.74	*0.002**
Naming	53.77 ± 6.61	60.93 ± 7.22	*<0.001**	51.5 ± 6.71	56.87 ± 6.5	*<0.001**
Spoken picture description	53.4 ± 6.97	59.27 ± 9.43	*<0.001**	50.5 ± 7.95	54.9 ± 10.1	*<0.001**
Reading	54.86 ± 4.88	56.95 ± 5.53	*<0.001**	50.86 ± 5.75	52.24 ± 5.98	*0.118*
Writing	53.77 ± 7.24	56.45 ± 7.57	*0.004**	51.48 ± 6.06	52.9 ± 6.65	*0.002**
Writing picture description	52.86 ± 7.39	57.27 ± 8.39	*0.002**	49.14 ± 5.15	51.52 ± 6.74	*0.037**

*Paired t-test, *p-value <0.05* is significant

Table 6: Comparing scores of each item CAT test post therapy among the cases and control groups using the Mann-Whitney test

Items of CAT	Participated aphasia cases		
	Controls (n=30) Median (IQR)	Cases (n=30) Median (IQR)	*p-value*
Memory	6 (0 - 11)	4 (0 - 9)	*0.314*
Cognitive	7 (2 - 10)	7 (3 - 8)	*0.732*
Comprehension of spoken language	6 (2 - 8)	5 (4 - 8)	*0.614*
Comprehension of written language	2 (1 - 3)	5 (1 - 9)	*0.333*
Repetition	1.5 (0 - 2)	5 (2 - 7)	*0.001**
Naming	4 (3 - 7)	7 (5 - 9)	*0.030**
Spoken picture description	3 (0 - 8)	6 (0 - 9)	*0.173*
Reading	0 (0 - 0)	1 (0 - 3)	*0.005**
Writing	1 (0 - 2)	2.5 (0 - 3)	*0.243*
Writing picture description	0 (0 - 4)	1 (0 - 10)	*0.378*

* Mann-Whitney test, *p-value <0.05* is significant

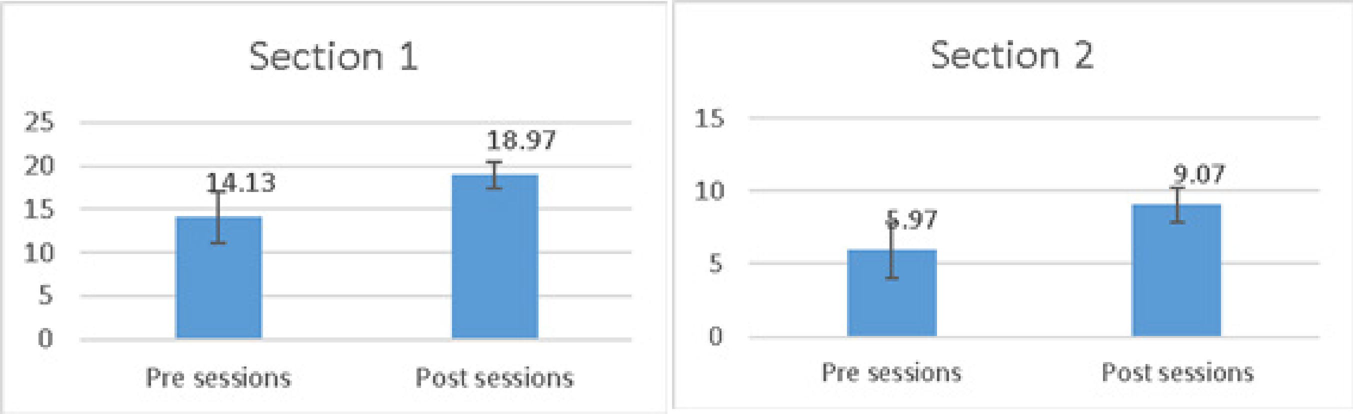

Fig. 1: Comparison between the results of part I of the Aphasia Caregiver Questionnaire caregivers' pre and post caregivers' education sessions

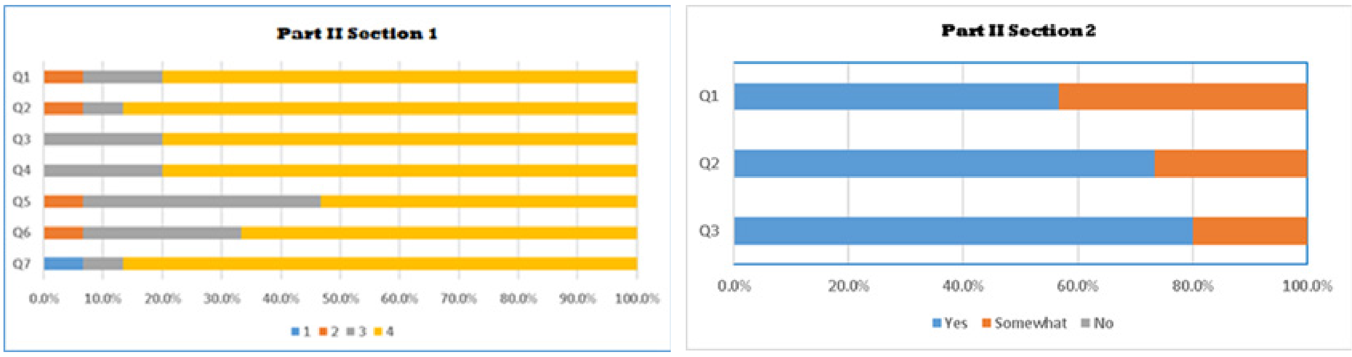

Fig. 2: Results of answers of caregivers on questions of part II (sections 1 and 2) of the Aphasia Caregivers questionnaire

DISCUSSION

Relatives, friends, and caregivers of patients with aphasia need to adjust to the new communication condition of their patients with aphasia. However, they may not be naturally prepared for this adjustment, which may lead to stress and increase the burden and frustration for both sides of the relationship, and significantly negatively impact relationships.[25] Thus, the treatment of people with aphasia should ideally extend to their carer. Interventions that aim to involve family and friends might consist of education-oriented information, counseling, support, and communication skills training.[8]

This study aimed to construct an Arabic booklet for the caregivers of patients with aphasia and investigate how this booklet improved the communicative abilities of those patients. The Aphasia Caregiver Guide is the first booklet in Arabic language for caregivers of patients with aphasia. One of the most famous caregiver books that were constructed for the same aim, is “aphasia caregiver guide “by the national aphasia association upon which the idea of the Arabic Aphasia Caregiver Guide booklet was inspired. Both booklets are aiming to prompt public awareness, and understanding of aphasia disorder and to provide support to all persons with aphasia and their caregivers. Both booklets, also, contain information about the types and causes of aphasia and communication tips and tools.

The Arabic Aphasia Caregiver Guide booklet is different as it is caring not only about the caregiver but also teaches them how to help their patient with aphasia as it introduces to them home-based exercises that could be applied easily at home as a type of intensive therapy and teach them how to generalize the exercises practiced in the therapy room. These home-based exercises represent about the halve of the booklet as our booklet is addressing both the patient and the caregiver, not the caregiver only as in the English book.

Constructing the booklet of Arabic Aphasia Caregiver Guide was a must as many aphasic patients cannot attend language therapy sessions regularly for different reasons: aphasia is mostly accompanied by motoric disabilities making the movement of the patient difficult, the dependence of the patient on his caregiver in attending the sessions due to communication problems and associated cognitive abilities deterioration and the sessions time may interfere with the caregiver work time or other duties.

Also, financial problems may face the patient and the caregivers especially if the patient were the only family financer and could not continue in his work after being aphasic. Also, not all healthcare services offer speech and language pathologists and there is a discrepancy in the distribution of these professionals across services and throughout demographic regions. For all those reasons the Arabic Aphasia Caregiver Guide is important as an adjuvant to the therapy and even it could help the patient with aphasia temporarily until the barrier of regular rehabilitation sessions attendance is resolved.

The caregivers selected in this study were not less than 18 years old to be responsible enough to help with the patient's therapy sessions attendance as well as to encourage the patient's use and generalization of language stimulation exercises during his/her daily life activities. Regards caregivers' opinions on the construction and usefulness of the Arabic Aphasia Caregiver Guide booklet. Results of part 2 of the Arabic aphasia questionnaire indicated that most of the caregivers were satisfied with the booklet and got benefited from it which was reflected in their communication behaviour with their patients. Most caregivers agreed that the size of the booklet was appropriate and that the booklet helped them to improve communication with their patients which is the main target of this study. Regards the structure of the Arabic Aphasia Caregiver Guide, most of the caregivers reported that the booklet is easily understood, and they are satisfied with it and capable to understand it easily as the booklet is written in the modern Arabic language to be easily understood by different social and educational levels of the caregivers. However, the booklet is explained word by word in detail for all caregivers in the family education sessions to ensure that they understand every word correctly. The Arabic Aphasia Caregiver Guide booklet was organized in a systematic way to be easily accessible for all caregivers according to the searched information as not all caregivers need all that information or all patients get to benefit from all those types of exercises so the caregiver could easily reach the needed part.

Concerning the usefulness of the Arabic Aphasia Guide, the caregivers reported that the presented information in the booklet is new to them and that they did not know enough information about aphasia before. 56.67% of the caregivers reported that the booklet answers their questions about aphasia, meaning that more than half of the caregivers were satisfied with the content of the booklet as it gave answers to most of their questions. 73.33% of them agreed that the booklet helps them change how they deal with their patients, meaning that the booklet was effective in changing the communicative behavior of the caregivers with their patients with aphasia as most of them were making some mistakes during communication with the patient as raising their voice or speaking in noisy places or using long complicated sentences or talking rapidly or not using body language, prosody or facial expressions sufficiently while communicating with the patient. While some of the caregivers had a piece of good knowledge about the suitable way to communicate with the aphasic patient and so their answer to this question was "somewhat." Also, 80% of them reported that applying the instructions and the home exercises presented in the booklet helps in improving communication with their patients. Meaning that the booklet helped the caregivers to communicate effectively with their patients. 66.67% of them also agreed that the home-based exercises presented in the booklet are easily applied. The rest of the caregivers meet difficulty applying the presented instructions as the cause of their un-cooperating patient, who may have a depressed mood with no desire to communicate and/or lack of motivation and hope. Those factors were tried to be overcome by encouraging social interaction with the patient and encouraging the patient to restore his/her social life and in severe cases, psychiatric consultation was advised. For the home-based exercises, some exercises were educated to the caregivers to apply indirectly during the natural daily activities of the patient as through playing cards (doing categorization exercises) or watching T.V (talking about the movie events and then asking the patient questions about it), or during Cooking (describe what the steps he/she do) or during shopping (make a list of the needed objects from the market) all those activities could be done as a type of indirect home-based therapy. Only 10% of the caregivers agreed that their patient's reading abilities did not deteriorate after aphasia (as known deterioration of reading is a part of aphasic syndromes so most of the patients could not read the booklet), they could read the booklet, and get benefit from it.

The Aphasia Caregiver Guide booklet was shared in increasing the awareness of the caregivers of aphasic patients about aphasia and its related communication disorders. This was revealed by the results of part 1 of the Arabic aphasia caregiver questionnaire. Results provided by this study reflected the improvement in the awareness of the caregivers about aphasia and methods of improvement of communication with the patient in general, especially about aphasia types and symptoms of each type and the difference between them. Caregivers' education helped them to understand the difference between intelligence deterioration and language abilities deterioration, as most caregivers, before education, believed that aphasia is a deterioration of intelligence level. Caregivers' awareness was also increased towards communication with their patients. As they educated that the aphasia caregiver guide provided them with information on how to talk with the patient, the possibility of sharing children in conversation with the patient, and the importance of using multimodal communication, not verbal communication only. They also were educated that the replacement of mobile voice calls with video calls to be easier to convey the message to the patient through multimodal communication. most of the caregivers were behave wrongly during conversations with their patients with aphasia by either raising their voice or answering questions instead of the aphasic or using body language during talking with him/her. The caregivers' education helped to clarify these mistakes and showed them how to communicate correctly with their patients. The caregivers were informed about some mobile apps that could help them with the application of home-based exercises. However, these mobile applications were optional not an essential part of the education. These applications were presented to caregivers who could have its accessibility and could afford it.

This study concluded also that caregivers have a significant influence on the quality of communication of their aphasic patients as caregivers' positive attitude towards patients with aphasia corresponds with more active facilitation of communication and can make speech and language rehabilitation more efficacious. The results of the Arabic version of the Comprehensive Aphasia Test among the aphasic patients who had language therapy sessions together with educating their caregivers by the Aphasia Caregiver Guide and those who had language therapy sessions only were compared. It was found that there was a significant difference in improvement in repetition, naming, and reading only but no significant improvement was noted in other subtests of cognition or comprehension this may be attributed to the normal or mild impaired level of cognitive abilities and comprehension abilities of the majority of the included aphasic patients in this study and the pre-therapy scores were relatively high and they remained high after training. This may have represented a ceiling effect limiting ratings of further improvement in cognition and comprehension. So, the difference between the two groups was insignificant.

While there was a significant improvement in subtests of repetition, naming, and reading, in favor of the main group of cases, who received conventional language therapy sessions plus the family education sessions and the constructed booklet to their caregivers, indicating improvement of the expressive language of those patients.

So the family education sessions enhance the improvement of the expressive language of those patients and have an additional beneficial effect for aphasia recovery as it increased the awareness of the caregivers about the problem and stressed their role in helping their patient to restore his/her language or to learn strategies to cope with the new situation also it spotted the light on the importance of practicing home-based exercises beside the regular attendance in the conventional language therapy sessions that acted as an intensive therapy which reflected on the different language modalities of the patients of this group.

It should be noted that reading had a trend of recovery equivalent to that of naming suggesting that reading and naming may share elements of their neural substrates.[26]

As regards writing and written picture description: the improvement in writing happened slowly.[27] In addition, writing goals are not always a priority for clients or clinicians in the first months after a stroke. In addition to many barriers to writing were identified such as fatigue, cognitive abilities, visual and motor difficulties, and depression impacted participants' writing.[28] This explains why the difference in writing improvement between both groups was statistically insignificant.

Focusing on the difference in the results of the modified Arabic CAT pre and post-therapy among patients who received the conventional language therapy together with education of their caregivers on the Aphasia Caregiver Guide (the cases group - Group I), there was a significant improvement in all subtests of the modified Arabic comprehensive aphasia test which attributed to practicing of language not only in verbal form but also in written form by reading and writing exercise practicing as the “Aphasia Caregiver Guide” booklet insists on the importance of using of all communication modalities when communicating with the patient at home and also the booklet includes reading and writing stimulation exercises and its importance was discussed during the family education sessions given to the caregivers and how to apply it to their aphasic patients was explained in details.

While the results of the modified Arabic comprehensive aphasia test pre and post-therapy among patients who received the conventional language therapy only (the control group – Group II) there was a significant improvement in all subtests of the modified Arabic comprehensive aphasia test except “reading” which showed insignificant improvement that may be attributed to lack of practicing reading outside the therapy rooms for most of them which may be due to limited counseling given to the caregiver about the importance of practicing reading and writing language stimulation exercises at home. Also, the main goal and the priority of therapy is given to verbal language more than written language.

CONCLUSION

The Arabic Aphasia Caregiver Guide was designed for Arabic-speaking caregivers of patients with aphasia to increase their awareness about aphasia and help aphasic patients and their families. There was an improvement in the awareness of the caregivers about aphasia and there was an improvement in the communication with their patients also, the language modalities of the patients were improved mainly repetition, naming, and reading. So, increasing the awareness of the family members has contributed to the positive outcome of the intervention sessions.

ABBREVIATIONS

Patient with aphasia (PWA)

Supporting Partners of People with Aphasia in Relationships and Conversation (SPPARC)

Patient-Centred-Communication Intervention (PCCI)

Better Conversations with Aphasia (BCA)

Communication therapy for PWA and their partners (APPUTE)

Comprehensive Aphasia Test (CAT)

CONFLICT OF INTEREST

There are no conflicts of interest.

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