Abuse Assessment Screen (AAS) questionnaire: the Greek validation

E. Antoniou[1,2], E. Ioannidi-Kapolou[2], M. Daglas[1,2], V. Vivilaki[1], D. Karamitros[1], V. Dafermos[3] G. Iatrakis[1]

[1]*Department of Midwifery, Technological Educational Institute of Athens (TEI), Athens*
[2]*Department of Sociology, National School of Public Health, Athens*
[3]*Department of Political Sciences, University of Crete, Rethymno (Greece)*

Summary

Aim: Domestic violence is a social problem with increasing dimensions worldwide. The various forms of abuse and especially violence during pregnancy have not been sufficiently studied by the Greek scientific community. The aim of this study was to translate, culturally adapt and validate a special research tool that can be used by health professionals as a diagnostic tool for violence during pregnancy. *Methods:* The Abuse Assessment Screen (AAS) questionnaire was chosen as a screening tool. The questionnaire was translated into Greek in accordance with the procedure suggested by the 'Trust Scientific Advisory Committee', followed by the cultural adaptation of the questionnaire to the Greek reality. *Results:* Specific psychometric tests were used for the validation of the questionnaire in order to assess the questionnaire's reliability and validity, and a factor analysis was also carried out. The internal consistency for all the parties who were questioned (n = 262), as expressed by Cronbach's alpha coefficient for the AAS, was 0.806 which is quite satisfactory and the results of our study suggest that the Greek translation of the AAS has a high correlation index compared to relevant international studies. *Conclusions:* The AAS questionnaire in the Greek version seems to be a reliable and valid tool for the diagnosis of violence during pregnancy.

Key words: Abuse Assessment Screen questionnaire; Domestic violence; Screening tool; Pregnancy.

Introduction

Violence against women is a complex social phenomenon of a global dimension. At the European level, the official definition of violence [1] against women includes any act of gender-based violence that results in or is likely to result in physical, sexual or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivation of liberty whether occurring in public or private life.

Domestic violence is a social and clinical problem with increasing dimensions influencing the lives of many pregnant women and their children [2]. The impact of abuse on a pregnant woman's health is significant regardless of whether it is associated with violent acts leading to injuries or not [2] Domestic violence prevalence during pregnancy is estimated at 0.9%-20.1% and domestic violence prevalence in general ranges from 9.7% to 29.7% [3].

The abuse of pregnant women in our country has not been systematically and adequately studied by the scientific community. All attempts made are mainly a revision of studies carried out abroad and do not include empirical data related to the Greek reality [4]. The difficulty in collecting data is mainly due to the lack of adequate data provided by the various structures to which abused women go. Thus, it is difficult to evaluate the degree, nature, seriousness and consequences of the phenomenon [5].

The aim of this study was the translation, cultural adaptation and validation of a special research tool in the

framework of studying the issue of abuse against pregnant women, that will become a model diagnostic tool in order to record, assess and evaluate the results with regard to the abuse of pregnant women in our country.

Materials and Methods

Various methods have been recommended in the last two decades for the screening for domestic violence. Nevertheless, few screening tools have been evaluated as diagnostic tools. The Abuse Assessment Screen (AAS) questionnaire [6] (Table 1) is a useful, fast and easy-to-use tool to detect domestic violence during pregnancy and this is why it is widely used in clinical practice [7, 8]. It includes five questions but a shorter version with three questions has also been used [7]. It includes body maps to demonstrate the areas where body injuries have been inflicted.

The questionnaire has been proven to effectively detect abused pregnant women [9], especially in their first regular visit for their pregnancy [10]. In this research, each positive answer to each one of the five questions of the questionnaire was taken as one point. The cutting score was three and a total grading was used to verify the presence of violence during pregnancy or not [11]. Dichotomous variables included in the questionnaire concern questions about physical, psychological or sexual violence during pregnancy and the previous year. The answers to these questions are of the closed type (yes-no) and the psychometric data of the English version of the questionnaire have been documented in various studies [9, 12].

Translation

The translation process into Greek was the one suggested by the Trust Scientific Advisory Committee [13]. The aim was to translate the questionnaire from English into Greek, while
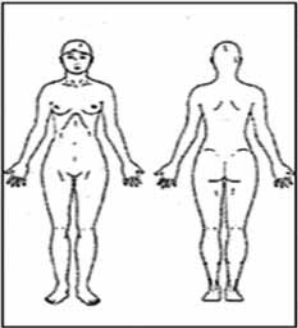
Table 1. — *The Abuse Assessment Screen (AAS) questionnaire.*

1. Have you **ever** been emotionally or physically abused by your partner or someone important to you?
　　　　　　　　　　　　　　　　　　　　　Yes ☐ No ☐

2. WITHIN THE LAST YEAR, have you been hit, slapped, kicked, or otherwise physically hurt by someone?　Yes ☐ No ☐
　If YES, by whom?_____ Total number of times____

3. Since you've been pregnant, were you hit, slapped, kicked, or otherwise physically hurt by someone?
　　　　　　　　　　　　　　　　　　　　　Yes ☐ No ☐
　If YES, by whom?_____ Total number of times____

MARK THE AREA OF INJURY ON THE BODY MAP, SCORE EACH INCIDENT ACCORDING TO THE FOLLOWING SCALE:

SCORE

1 = Threats of abuse including use of a weapon

2 = Slapping, pushing; no injuries and/or lasting pain

3 = Punching, kicking, bruises, cuts and/or continuing pain

4 = Beating up, severe contusions, burns, broken bones

5 = Head injury, internal injury, permanent injury

6 = Use of a weapon; wound from weapon

If any of the descriptions for the higher number apply, use the higher number.

4. WITHIN THE LAST YEAR, has anyone forced you to have sexual activities?
　　　　　　　　　　　　　　　　　　　　　Yes ☐ No ☐
　If YES, who?_____Total number of times_____

5. Are you afraid of your partner or anyone you listed above?　　　　　　　　　　　　　　　Yes ☐ No ☐

Developed by the Nursing Research Consortium on Violence and Abuse. Readers are encouraged to reproduce and use this assessment tool.

maintaining the basic characteristics of the questionnaire. According to the above-mentioned instructions, the English questionnaire was translated into Greek (forward translation) by two different translators without each one knowing the work of the other. There were no significant differences in the interpretation of the words in the forward translation. The first version of the questionnaire in Greek was the result of the comparison of the two translations. This version was then translated into English (back translation) by a bilingual person (mother-tongue English) with knowledge of the terminology (midwife), but did not know the initial version of the English questionnaire. Following that, a meeting took place with the participation of a third party, an expert in the process, and following a unanimous decision, the first version of the questionnaire in Greek was created (1st reconciliation version). In the end, the English translation (back translation) was sent for comments to a research group of midwives at the University of Salford, studying issues of women's abuse. These comments were taken into consideration, resulting in the second version (2nd reconciliation version).

Cultural adaptation

Taking into account the way the specific research tool was culturally adapted in similar international studies [6, 14-16], the second version of the questionnaire was used in a random sample of pregnant women for the cultural adaptation in our country, as suggested in the cognitive debriefing process [13]. Thus, the AAS questionnaire was given at the beginning of June 2007 to five random pregnant women who visited the Outpatient Obstetrics Clinics of the two biggest hospitals – maternity hospitals of Athens – in order to be examined. The pregnant women were asked whether each question was understood and if they needed to rephrase it in their own words or preferred a specific word in a question to be changed so that the question could be better understood (cognitive debriefing interview). The questionnaire during the cultural adaptation was in general understood and easy according to the pregnant women's comments. Their proposals were integrated into the second version of the questionnaire and the final version of the questionnaire's Greek translation was created. The randomization of the pregnant women's sample for the cultural adaptation of the questionnaire was carried out on the basis of the simple random sampling which is the simplest form and a flexible and integrated model [17].

Pilot application

Prior to distributing the final questionnaire to the pregnant women, it was distributed on a pilot basis to women selected with the method of simple random sampling during pregnancy. More specifically, the AAS questionnaire was given to ten random pregnant women who visited the Outpatient Obstetrics Clinics of the two biggest hospitals – maternity hospitals of Athens in order to be examined. The women's sample used for the pilot control had similar characteristics with the characteristics of the people included in the final samples. The aim of the pilot control was to verify:

1) The consistency and whether the questions were understood;

2) The adequacy of the alternative answers to all closed questions;

3) Possible flow problems related to the size of the questionnaire and the time required to fill it in; and

4) The need for changes and clarifications.

In general terms, during the pilot application, no special problems or questions arose and it was characterized by the women as an easily understood questionnaire.

Collection of research material

In the period June-September 2007, following the pilot application, the questionnaire was distributed to 262 pregnant women who visited the Outpatient Obstetrics Clinics of the above-mentioned public hospitals – maternity hospitals of Athens – to be examined. Prior to that, the scientific councils of both hospitals after studying the research protocol approved the questionnaire to be used for a study. Before filling in the questionnaire, all pregnant women were informed orally and in writing by the researcher – midwife for the aim of this study and the possible impacts of the results on the society; all the women signed a consensus form. The SPSS, version 15, statistical programme was used for the statistical analysis of the data.

Results

Application of psychometric tests (questionnaire's validation)

Specific psychometric tests were performed for the questionnaire's validation to evaluate the questionnaire's reliability and validity and a factor analysis was also con-

Table 2. — *Item total statistics*.

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's alpha if item deleted
Question 1	7.31	1.436	0.470	0.823
Question 2	6.97	1.313	0.759	0.712
Question 3	6.86	1.671	0.546	0.784
Question 4	6.82	1.788	0.512	0.797
Question 5	6.98	1.299	0.764	0.709

Table 3. — *Total variance explained*.

Component		Initial eigenvalues (a)			Extraction sums of squared loadings		
		Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
Raw	1	.488	61.442	61.442	.488	61.442	61.442
	2	.153	19.242	80.684			
	3	.070	8.791	89.475			
	4	.049	6.157	95.632			
	5	.035	4.368	100.000			
Rescaled	1	.488	61.442	61.442	2.824	56.471	56.471
	2	.153	19.242	80.684			
	3	.070	8.791	89.475			
	4	.049	6.157	95.632			
	5	.035	4.368	100.000			

Table 4. — *Correlation control of AAS questions*.

	Question 1	Qustion 2	Question 3	Question 4	Question 5
Question 1	1.000	0.434	0.297	0.254	0.489
Question 2	0.434	1.000	0.554	0.481	0.795
Question 3	0.297	0.554	1.000	0.432	0.475
Question 4	0.254	0.481	0.432	1.000	0.494
Question 5	0.489	0.795	0.475	0.494	1.000

ducted. More specifically, the reliability was evaluated by measuring the internal consistency in order to check one point vs the other (measuring Cronbach's alpha coefficient).

The internal consistency for all the participants (n = 262) as expressed with Cronbach's alpha coefficient for the AAS scale was 0.806, which is quite satisfactory. Table 2 shows the change of Cronbach's alpha coefficient for the internal consistency when a specific variable is abstracted from our factorial model. The variables are five, as many as the questions of the AAS questionnaire.

The exploratory factor analysis

The exploratory factor analysis was performed with the use of the principal components analysis method with Varimax with Kaiser Normalization (rotation method), looking for the special factors making up the questionnaire. The factorial analysis with the method of principal components was used because we wanted no interaction between the factors so that the groups of variables could be distinguished. In the end, our model showed just one group of variables (Table 3).

The application of the exploratory factor analysis showed that the categories (factors) that may constitute
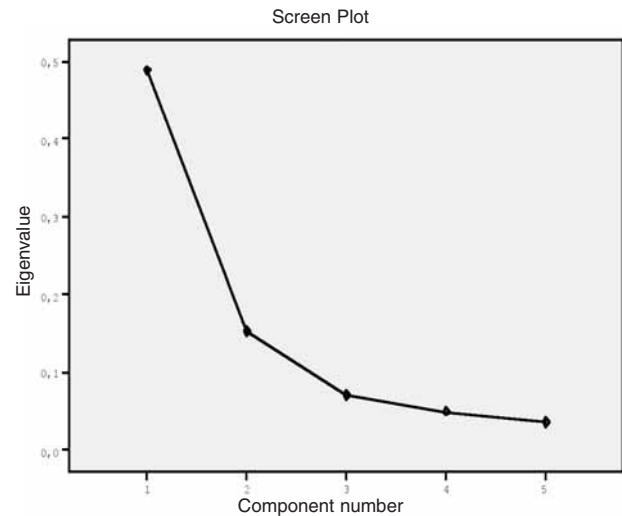

Figure 1. — Exploratory factor analysis.

specific characteristics of the questionnaire, as shown in the Screen Plot (Figure 1) are one. More specifically, as shown in Table 3, no latent value of any factor is more than one, so our model is one-dimensional.

The method inter-item correlation matrix was used for the analysis of the examination of the correlation of the various items. The specific analysis showed that all the questions are correlated to a very good degree, as all Cronbach's alpha values were higher than 0.7 (Table 4).

Discussion

The AAS questionnaire is a useful, fast and easy to use tool to detect domestic violence during pregnancy and this is why it is widely used in clinical practice [8, 12]. It has been found that the questionnaire effectively detects abused pregnant women [9], especially during their first regular visit of their pregnancy [10].

The size of the sample used for the weighing of the questionnaire in the Greek language and the factorial analysis was adequate (KMO measure of sampling adequacy = 0.780). The validation of the questionnaire in Greece showed that the internal consistency, as expressed with Cronbach's alpha coefficient for all pregnant women that participated (n = 262) was 0.806, which is quite satisfactory. Our factorial model, thus, has a high consistency index. Relevant studies have found that Cronbach's alpha coefficient for the AAS questionnaire ranges between 0.79-0.89 [9, 18] with 0.88 being the final value which is higher than the one of the Greek edition but the difference is not so great.

The AAS questionnaire in the Greek version seems to be reliable, as it has good internal consistency (Cronbach's alpha = 0.780), as shown in relevant studies [19]. Furthermore, our results show that the Greek translation of the AAS scale has a high correlation index compared to relevant international studies [20, 21].

Acknowledgment

References

[1] The United Nations, Department of Public Information: "4th World Conference of Women". China, September 4-15, 1995.

[2] Campbell J.C.: "Health consequences of intimate partner violence". *Lancet,* 2002, *359,* 1331.

[3] Gazmararian J.A., Lazorick A., Spitz A.M., Ballard T.J., Saltzman L., Marks J.S.: "Prevalence of violence against pregnant women". *JAMA,* 1996, *275,* 1915.

[4] Mouzakitis K. Marital Violence: "Aetiology, consequences, intervention". *Social Work,* 1989, *16,* 217.

[5] Chatzifotiou S., Dobash R.: "Seeking informal support: Marital violence against women in Greece". *Violence Against Women: J.,* 2001, *7,* 124.

[6] Brown J.B., Lent B., Brett P.J.: "Development of the woman abuse screening tool for use in family practice". *Fam. Med.,* 1996, *28,* 422.

[7] McFarlane J., Parker B., Soeken K., Bullock L.: "Assessing for abuse during pregnancy: severity and frequency of injuries and associated entry into prenatal care". *JAMA,* 1992, *267,* 3176.

[8] Pearce J.W., Hawkins C.W., Kaerney M., Peyton C.E., Dwyer J., Haggerty L.A. *et al.*: "Translation of domestic violence instruments for use in research". *Violence Against Women J.,* 2003, *9,* 859.

[9] Parker B., McFarlane J., Soeken K., Torres T., Campell D.: "Physical and emotional abuse in pregnancy: A comparison of adult and teenage women". *Nursing Res.,* 1993, *42,* 173.

[10] Glander S., Lou M., Michielutte R., Parsons L.H.: "The prevalence of Domestic Violence among women seeking abortion". *Obstet. Gynecol.,* 1998, *91,* 1002.

[11] Espinosa L., Osborne K.: "Domestic violence during pregnancy implications for practice". *J. Midwifery Women's Health,* 2002, *47,* 305.

[12] McFarlane L., Greenberg L., Weltge A., Watson M.: "Identification of abuse in emergency departments: effectiveness of a two-question screening tool". *J. Emergency Nursing,* 1995, *21,* 391.

[13] Medical Outcomes Trust: "Trust introduces new translation criteria". *Trust Bulletin,* 1997, *5,* 1.

[14] Sherin K.M., Sinacore J.M., Li X.: "HITS: A short domestic violence screening tool for use in a family practice setting". *Fam. Med.,* 1998, *30,* 508.

[15] Feldhaus K.M., Koziol-McLain J., Amsbury H.L.: "Accuracy of 3 brief screening questions for detecting partner violence in the emergency department". *JAMA,* 1997, *277,* 1357.

[16] Yeager K., Seid A.: "Women's mental health: primary care and victims of domestic violence". *Primary Care: Clinics in Office Practice,* 2002, *29,* 125.

[17] Dafermos V.: "Social Statistics with SPSS". Zitis Publications, Athens 2005.

[18] Leung W.C., Leung T.W., Lam Y.Y. *et al.*: "The prevalence of domestic violence against pregnant women in a Chinese community". *Int. J. Gynecol. Obstet.,* 1999, *66,* 23.

[19] Sinoff G., Ore L., Zlotogorsky D., Tamir A.: "Short Anxiety Screening Test-a brief instrument for detecting anxiety in the elderly". *Int. J. Geriatr. Psych.,* 1999, *14,* 1062.

[20] Cox J.L., Holden J.M., Sagovsky R.: "Detection of postnatal depression". *Br. J. Psych.,* 1987, *150,* 782.

[21] Pop V.J., Komptroe I.H., Van Son M.: "Characteristics of the Edinburgh Postnatal Depression Scale (EPDS) in the Netherlands". *J. Affect Disord.,* 1992, *26,* 105.

Address reprint requests to:
E. ANTONIOU, R.M.
50 Kodrigtonos Str. 11251
Athens (Greece)
e-mail: lilanton@teiath.gr