

## Original Article

## Intimate Partner Violence in Primary Settings and Consequences in Mental Health

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### Abstract

**Background:** The Intimate Partner Violence (IPV) remains a major public health concern in community. Women and men can commit violence or can be victims of psychological and physical abuse by their partners.

**Aim:** In this research we study the correlation between the Intimate Partner Violence, which is a social scourge of our age, and depression, which is also a major problem of community to people visited the Primary Health Greek System.

**Methodology:** We evaluated the Intimate Partner Violence using the HITS scale, a short tool and also studied the mental health of those who involved with the PHQ-9 scale in Primary Health Care in Greek population.

**Results:** The survey consisted from a sample of 142 people who visited the Clinic of General Medicine at the Primary Health Centre of Ioannina and through emailing and social net. The Cronbach's a coefficient was 0.89, suggesting a good, almost excellent, internal consistency. The PHQ-9 score had an average value of 5.13 (standard deviation, 5.01). Our sample was composed of 18 men (12.7%) and 124 (87.3%) women. The majority of study participants scored in the low range of the scales, to the non-victim category and show minimal depression. Analysing separately the four items of HITS and PHQ-9, we observed participants of lower education and those living in rural areas displaying the highest average scores. PHQ-9 is positively associated with HITS score, while Spearman's correlation coefficient being as high as  $r=0.88$ .

**Conclusions:** The Intimate Partner Violence effects mental health of the victims and can produce severe depression and other mental disorders. More research can be done in order to develop effective programs to prevent and management violence from the primary settings.

**Key Words:** Intimate Partner Violence, Mental Disorders, Depression, Primary Health Care, Psychological Abuse, HITS, PHQ-9.

## Background

The Intimate Partner Violence is a major public health problem for the community (Sully, Greenway & Reeves, 2005). In 2010, 30% of women reported as victims of physical and sexual abuse by their partner during their lifetime (Butchart, Garcia-Moreno & Mikton, 2010). In a research that conducted in 2010 by the European Union Agency for Fundamental Rights found that in Greece the percentage of victims of physical and sexual violence recorded by the FRA was 6% and the percentage of victims of psychological violence was 33 % (FRA 2014).

Millions of children, women and men experience daily inhuman, cruel consequences of violence at home, at school and in the community. The lives of victims who have suffered violence tend to change dramatically. Many of the victims acquire addictions (alcohol, drugs), have depression that can lead up to suicide and create problematic interpersonal relationships (Chan, Clark & Fedotov, 2014). Individuals who had suffered physical and psychological violence showed an increased incidence of depression, chronic diseases and chronic mental illnesses (Coker et al, 2002).

Big blow also noted in the field of health care as people who are abused increases costs to 8.3 billion spent on health services, abstaining from work in case of injury or death. Additionally the cost increases when prosecuted, defended and imprisonment (Max et al, 2004).

In our research we examined the Intimate Partner Violence (violence from a spouse or partner against the other spouse/partner) in Primary Health Care in a population of Greek patients and through emailing and social net using the HITS questionnaire, a screening tool for domestic violence, easy for the health care providers to remembered by the acronym "HITS" (Sherin et al, 1998) and easy to fill in by the patients (Chen PH. et al 2005), while we further recorded the psychological state of the participants implementing the PHQ-9 scale. The Patient Health Questionnaire (PHQ-9) is a potentially tool for diagnosis and management of depression and other mental disorders (Arroll et al, 2010). Likewise HITS, PHQ-9 is brief, freely available and widely used in clinical practice (Kroenke, Spitzer & Williams, 2001).

In this article we study the correlation between Intimate Partner Violence and depression. Does

the depressed mood constitute predisposing factor for triggering violence and vice versa the violence affects the mental health of victims causing them mental health disorders? The health care professionals working in Primary Health Care have the difficult work to detect and management the victims of Intimate Partner Violence and the negative effects on physical and mental health of these people resulting an increased cost in the healthcare sector.

## Methodology

Intimate Partner Violence is a pattern of abusive behavior between individuals taking place within a domestic environment. Victims of Intimate Partner Violence are irrespective culture, society, sex or economic status, while it can be met in both forms of verbal or physical abuse.

## Ethical Approval

The study was approved by the School of Medicine of the University of Ioannina.

## Data collection

In the current study, we examined the Intimate Partner Violence (violence from a spouse or partner against the other spouse/partner) in Primary Health Care in a population of Greek citizens. We collected a sample of 142 citizens who visited the Clinic of General Medicine at the Primary Health Centre of Ioannina during the period of 15 August 2015 to 31 October 2015. In September 2015, the questionnaire went online on Google Drive platform, emailing and social net as much as possible users in Greece.

## Instruments

The HITS scale (Hurt, Insulted, Threatened with harm and Screamed at) is a brief questionnaire that consists of the following four items: a) "How often does your partner physically hurt you?" b) "How often does your partner insult you or talk down to you?" c) "How often does your partner threaten you with harm?" and d) "How often does your partner scream or curse at you?". Patients are called to answer each of those questions with a 5-point scale of the form: never (1 point), rarely (2 points), sometimes (3 points), fairly often (4 points) and frequently (5 points). Answers for the four items are summed up forming the overall HITS score ranging from 4 to 20. The HITS questionnaire located in the adjustment process into the Greek facts (Karathanos et al, 2016).

The PHQ-9 scale is a self-reported psychometric tool comprised of 9 questions based on the DSM-IV depression diagnostic criteria. It has been designed for screening, diagnosing, monitoring and measuring the severity of depression. Participants are called to respond to the 9 items choosing one of the four plausible answers: not at all (0 points), several days (1 point), more than half the days (2 points) and nearly every day (3 points). The overall score is formed by adding up the 9 responses and can range from 0 to 27 points. Depression according to PHQ-9 scoring is then assessed such that: minimal depression 0-4, mild depression 5-9, moderate depression 10-14, moderately severe depression 15-19 and severe depression 20-27. Likewise HITS, PHQ-9 is brief, freely available and widely used in clinical practice. The PHQ-9 has been translated, tested for validity and reliability in Greek (Hyphantis et al, 2011).

### Reliability

We used Cronbach's  $\alpha$  to measure internal consistency. Cronbach's  $\alpha$  higher than 0.7 shows acceptable (0.7–0.8), good (0.8–0.9) or excellent (>0.9) internal consistency, value >0.7 shows questionable (0.6–0.7), poor (0.5–0.6) or unacceptable (< 0.5) internal consistency (Koutsogiannou et al, 2015). The PHQ-9 scale shows most diagnostic accuracy, concurrent validity and reliability (the sensitivity index ranges from 86% -100%, the specificity index of 86% -99%), Construct validity ( $r$  ranging from 0,75-0,85,  $p < 0,001$ ) and reliability (Cronbach's  $\alpha$  0,61-0,80) (Feder et al, 2009).

### Data Analysis

Our sample was composed of 18 men (12.7%) and 124 (87.3%) women with overall average age 39.9 years (standard deviation 11.5 years), ranging from 16 to 68 years old. In Table 1 we give some generic demographic characteristics of the sample, overall as well as by sex. About 58.5% of the participants were married, 31% were single, while we had no males who were either divorced or widowed. The distribution of education was similar between males and females with 58.5% of them having attained higher education. The majority of the participants came from urban areas (73.2%), while as far as the income is concerned 34.5% of our sample was earning more than 1201€ per month. Interestingly, the highest income frequency for men was observed for the category of 901-1200€

(50%), while the majority of women (34.7%) belonged to the category of earning more than 1201€ per month.

### Results

In Figures 1 and 2 we constructed the frequency distributions for total HITS and PHQ-9 scores. Both distributions are L-shaped indicating that the majority of study participants scored in the low range of the scales, i.e. most participants belong to the non-victim category and show minimal depression. The lowest and highest HITS score observed was 0 and 20 respectively, with mean value 6.49 (standard deviation, 3.6) and median 5. The PHQ-9 score had an average value of 5.13 (standard deviation, 5.01), ranging from 0 to 18, with the great proportion of participants (60.56%) ranking the category of minimal depression and only 9.86% spanning the moderate severe depression, while none presented severe depression.

Further, on examining Intimate Partner Violence and how it patterns across different socioeconomic factors we performed non-parametric Kruskal -Wallis tests to identify differences on HITS and PHQ-9 scoring between the different categories of sex, marital status, education level, residency and income. In Tables 2-6 we report the mean  $\pm$  sd values for overall HITS score, its four items and overall PHQ-9 score, together with the  $P$ -values for the test of significant differences across the socioeconomic factors under study each and every time. We performed all analyses in STATA version 12 (Stata Corporation. Stata Statistical Software, Release 12. College Station, TX: Stata Corporation; 2011) and examined statistical significance at the level of 5%.

We observe that differences on the overall HITS score are not statistically significant across sex ( $P$ -value, 0.369), educational level ( $P$ -value, 0.119), residency ( $P$ -value, 0.101) and income ( $P$ -value, 0.59). We do, however, observe a statistically significant difference of HITS score across the four categories of marital status, though significance stands on the borderline ( $P$ -value, 0.047). Looking at the mean and sd values for the four categories, we can say that such an observation is probably due to the category of divorced participants, who scored higher on the HITS scale (average score, 9.2) as opposed to the remaining classes whose score lies between 4.8 and 6.72 on average.

**Table 1. Demographic characteristics of individuals included in the study.**

<i>Characteristic</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
<b>n</b>	<b>18 (12.7)</b>	<b>124 (87.3)</b>	<b>142 (100)</b>
<b>Age, years (Mean±SD)</b>	<b>44.6 ± 13.4</b>	<b>39.3 ± 11.2</b>	<b>39.9 ± 11.5</b>
<b>Marital status</b>			
<b>Married</b>	<b>11 (61.1)</b>	<b>72 (58.1)</b>	<b>83 (58.5)</b>
<b>Single</b>	<b>7 (38.9)</b>	<b>37 (29.8)</b>	<b>44 (31.0)</b>
<b>Divorced</b>	<b>-</b>	<b>10 (8.1)</b>	<b>10 (7.0)</b>
<b>Widowed</b>	<b>-</b>	<b>5 (4.0)</b>	<b>5 (3.5)</b>
<b>Education</b>			
<b>Primary</b>	<b>3 (16.7)</b>	<b>13 (10.5)</b>	<b>16 (11.3)</b>
<b>Secondary</b>	<b>5 (27.8)</b>	<b>38 (30.6)</b>	<b>43 (30.3)</b>
<b>Higher</b>	<b>10 (55.5)</b>	<b>73 (58.9)</b>	<b>83 (58.5)</b>
<b>Residence</b>			
<b>Urban</b>	<b>14 (77.8)</b>	<b>90 (72.6)</b>	<b>104 (73.2)</b>
<b>Suburban</b>	<b>3 (16.7)</b>	<b>19 (15.3)</b>	<b>22 (15.5)</b>
<b>Rural</b>	<b>1 (5.5)</b>	<b>15 (12.1)</b>	<b>16 (11.3)</b>
<b>Income (€)</b>			
<b>≤300</b>	<b>-</b>	<b>11 (8.8)</b>	<b>11 (7.8)</b>
<b>301-600</b>	<b>1 (5.6)</b>	<b>14 (11.3)</b>	<b>15 (10.6)</b>
<b>601-900</b>	<b>2 (11.1)</b>	<b>27 (21.8)</b>	<b>29 (20.4)</b>
<b>901-1200</b>	<b>9 (50.0)</b>	<b>29 (23.4)</b>	<b>38 (26.8)</b>
<b>≥1201</b>	<b>6 (33.3)</b>	<b>43 (34.7)</b>	<b>49 (34.5)</b>

Data given as n (%) unless otherwise stated.

**Table 2. Comparison of the four item Hurt, Insulted, Threatened with harm and Screamed score and The Patient Health Questionnaire-9 score between male and female participants.**

<i>Score</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>P-value</i>
HITS	5.39 ± 2.64	6.65 ± 3.71	6.49 ± 3.6	0.369
Hurt	1.17 ± 0.51	1.37 ± 0.87	1.35 ± 0.83	0.351
Insult	1.67 ± 1.19	1.85 ± 1.15	1.83 ± 1.15	0.372
Threaten	1.00 ± 0.00	1.44 ± 0.95	1.38 ± 0.90	0.026
Scream	2.06 ± 1.21	1.98 ± 1.24	1.99 ± 1.23	0.616
PHQ-9	4.11 ± 4.04	5.28 ± 5.13	5.13 ± 5.01	0.525

Data given as Mean±SD. *P*-values are calculated based on Kruskal-Wallis tests for independent samples.

**Table 3. Comparison of the four item Hurt, Insulted, Threatened with harm and Screamed score and The Patient Health Questionnaire-9 score between different marital statuses.**

<i>Score</i>	<i>Married</i>	<i>Single</i>	<i>Divorced</i>	<i>Widowed</i>	<i>P-value</i>
HITS	6.72 ± 3.94	5.61 ± 2.30	9.2 ± 4.71	4.80 ± 1.10	0.047
Hurt	5.25 ± 5.34	4.30 ± 3.96	1.8 ± 1.32	1.00 ± 0.00	0.204
Insult	1.86 ± 1.23	1.61 ± 0.89	2.7 ± 1.25	1.60 ± 0.89	0.063
Threaten	1.43 ± 0.98	1.16 ± 0.43	2.1 ± 1.45	1.00 ± 0.00	0.032
Scream	2.04 ± 1.31	1.86 ± 1.05	2.6 ± 1.43	1.20 ± 0.45	0.200
PHQ-9	5.25 ± 5.34	4.30 ± 3.96	9 ± 5.83	2.80 ± 1.92	0.111

Data given as Mean±SD. *P*-values are calculated based on Kruskal-Wallis tests for independent samples.

**Table 4. Comparison of the four item Hurt, Insulted, Threatened with harm and Screamed score and The Patient Health Questionnaire-9 score between different education levels.**

<i>Score</i>	<i>Primary</i>	<i>Secondary</i>	<i>Higher</i>	<i>P-value</i>
HITS	8.5 ± 6.15	7.02 ± 3.74	5.82 ± 2.62	0.119
Hurt	2.25 ± 1.57	1.39 ± 0.82	1.14 ± 0.45	<0.001
Insult	2.25 ± 1.48	1.98 ± 1.24	1.67 ± 1.00	0.249
Threaten	2.25 ± 1.57	1.42 ± 0.96	1.19 ± 0.53	0.007
Scream	2.31 ± 1.78	2.23 ± 1.25	1.81 ± 1.08	0.183
PHQ-9	7.06 ± 6.82	6.26 ± 4.96	4.18 ± 4.45	0.018

Data given as Mean±SD. *P*-values are calculated based on Kruskal-Wallis tests for independent samples.

**Table 5. Comparison of the four item Hurt, Insulted, Threatened with harm and Screamed score and The Patient Health Questionnaire-9 score between types of residence.**

<i>Score</i>	<i>Urban</i>	<i>Suburban</i>	<i>Rural</i>	<i>P-value</i>
HITS	5.98 ± 2.98	7.36 ± 4.24	8.56 ± 5.37	0.101
Hurt	1.18 ± 0.59	1.64 ± 0.95	2.00 ± 1.46	0.002
Insult	1.72 ± 1.07	2.14 ± 1.25	2.13 ± 1.45	0.227
Threaten	1.26 ± 0.74	1.55 ± 0.96	1.94 ± 1.44	0.022
Scream	1.82 ± 1.12	2.45 ± 1.30	2.5 ± 1.59	0.036
PHQ-9	4.40 ± 4.59	6.91 ± 5.35	7.44 ± 6.11	0.019

Data given as Mean±SD. *P*-values are calculated based on Kruskal-Wallis tests for independent samples.

**Table 6. Comparison of the four item Hurt, Insulted, Threatened with harm and Screamed score and The Patient Health Questionnaire-9 score between different incomes.**

<i>Score</i>	<i>≤300</i>	<i>301-600</i>	<i>601-900</i>	<i>901-1200</i>	<i>≥1201</i>	<i>P-value</i>
HITS	7.09 ± 4.78	7.47 ± 5.51	6.97 ± 3.61	6.34 ± 3.08	5.88 ± 2.96	0.590
Hurt	1.45 ± 1.21	1.73 ± 1.28	1.31 ± 0.76	1.34 ± 0.81	1.22 ± 0.59	0.540
Insult	2 ± 1.26	2.13 ± 1.51	2.07 ± 1.22	1.71 ± 1.04	1.65 ± 1.03	0.450
Threaten	1.45 ± 1.21	1.73 ± 1.39	1.48 ± 0.91	1.29 ± 0.69	1.27 ± 0.76	0.598
Scream	2.18 ± 1.33	2.47 ± 1.46	2.10 ± 1.26	2 ± 1.16	1.73 ± 1.17	0.239
PHQ-9	5.64 ± 5.52	6 ± 5.67	6.03 ± 5.05	5.21 ± 4.98	4.16 ± 4.72	0.326

Data given as Mean±SD. *P*-values are calculated based on Kruskal-Wallis tests for independent samples.

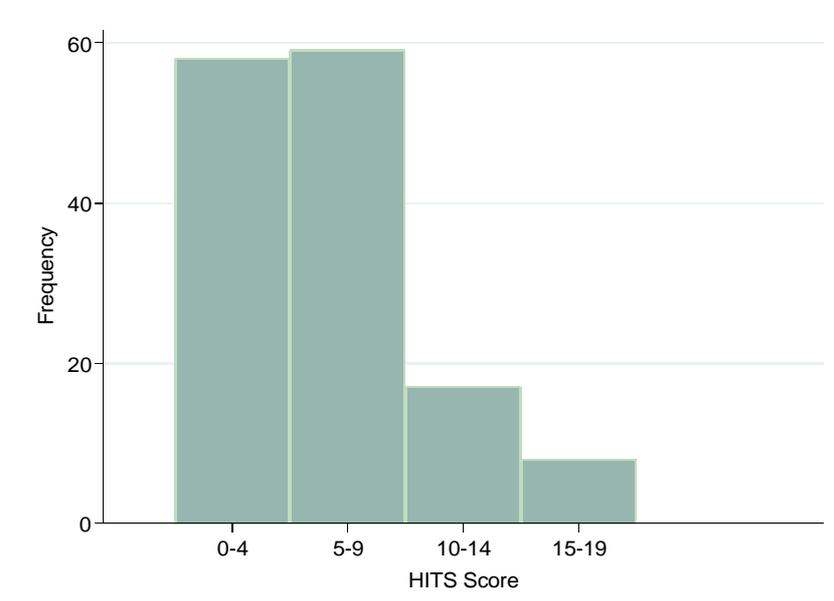


Figure 1. Frequency Distribution of Hurts, Insults, Threatens, and Screams score.

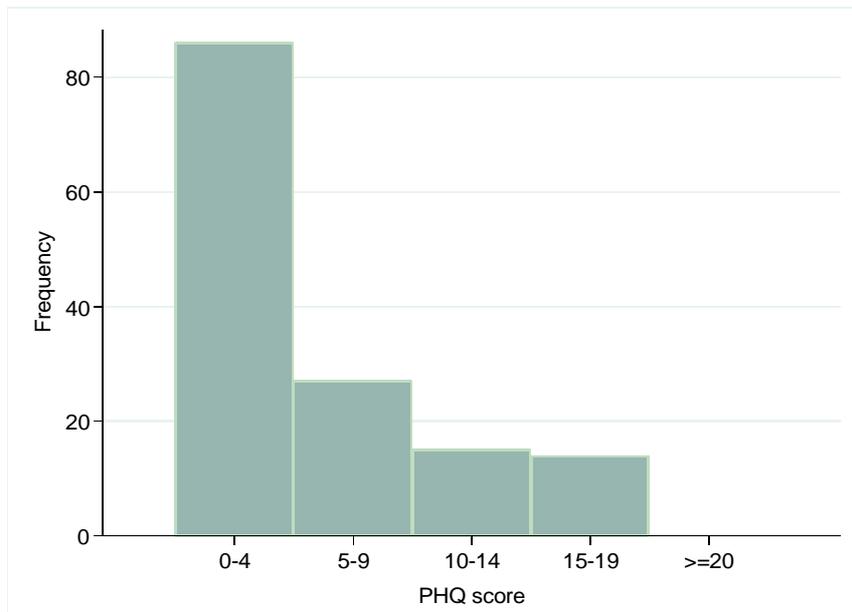


Figure 2. Frequency Distribution of The Patient Health Questionnaire-9 score

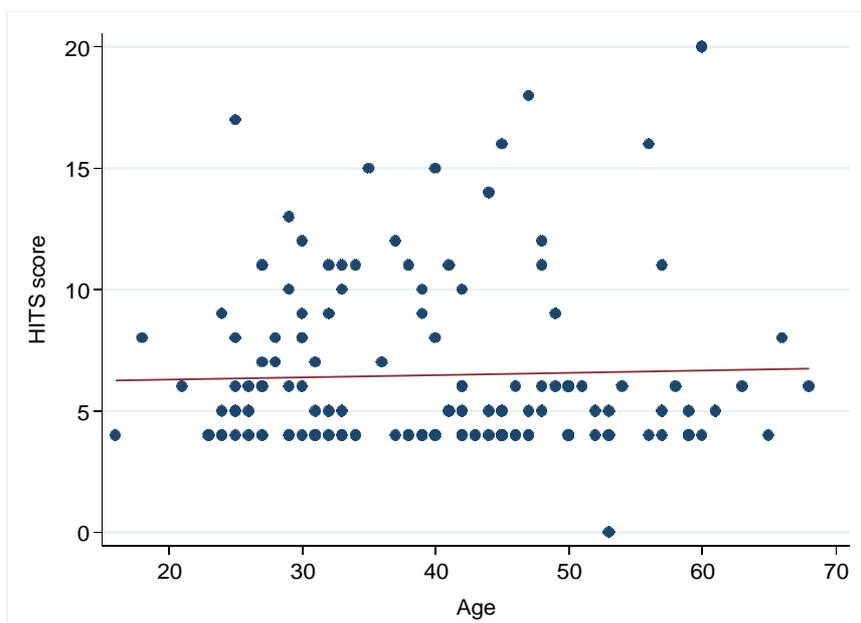


Figure 3. Scatter plot of Hurt, Insulted, Threatened with harm and Screamed score and age.

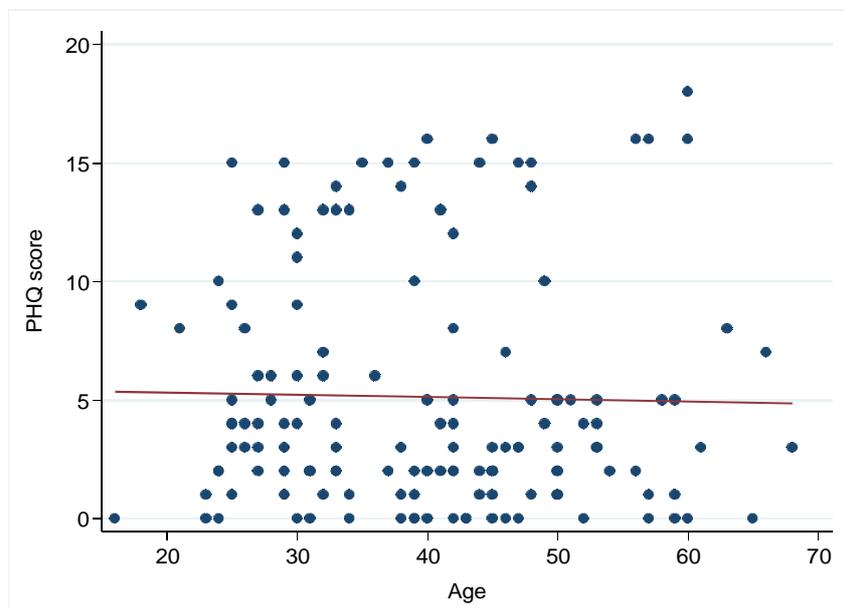


Figure 4. Scatter plot of The Patient Health Questionnaire-9 score and age.

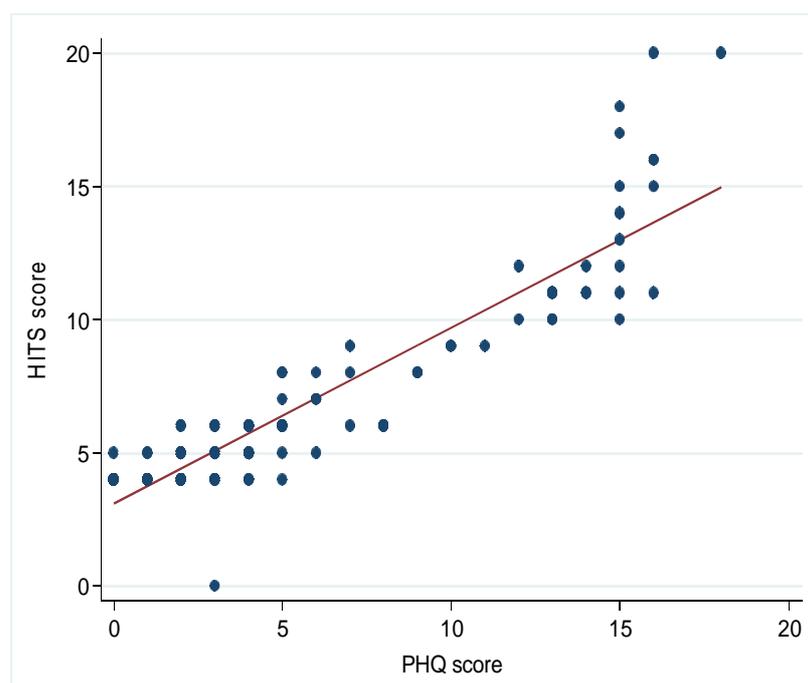


Figure 5. Scatter plot of the four item Hurt, Insulted, Threatened with harm and Screamed score and The Patient Health Questionnaire-9 score

Interestingly, when analysing separately the four items of HITS, we observed that score for the *Threaten* item did statistically differ across sex ( $P$ -value, 0.026), marital status ( $P$ -value, 0.032), educational level ( $P$ -value, 0.007) and residency ( $P$ -value, 0.022); no statistically significant differences were observed across the different incomes for *Threaten* ( $P$ -value, 0.598). Further, differences of the *Hurt* item were also statistically significant across educational level ( $P$ -value, <0.001) and residency ( $P$ -value, 0.002), with participants of lower education and those living in rural areas displaying the highest average scores. A similar remark to the latter can be made for PHQ-9 scale, for which tests yielded statistically significant differences across educational level ( $P$ -value, 0.018) and residency ( $P$ -value, 0.019), with again participants of lower educational level and rural areas indicating higher level of depression.

As far as age is concerned we designed scatter plots for HITS and PHQ9 scores (Figures 3 and 4 respectively) and calculated the corresponding Spearman's correlation coefficient. Both Spearman's coefficients of HITS and PHQ9 indicated no correlation with age ( $r=-0.041$  and

$r=-0.06$  respectively), while lack of correlation between age and the two scoring scales is also evident on the scatter plots of Figure 3 and 4.

Finally, once violence -and particularly violence within intimate relationships- and depression are broadly accepted as two accompanying behaviors, we were interested in investigating whether such a remark stands in our study. We calculated a Spearman's correlation coefficient for the two scales and visualized their relation on a scatter plot. Figure 5 makes evident that PHQ-9 is positively associated with HITS score, while Spearman's correlation coefficient being as high as  $r=0.88$ , strongly adds to the fact that victims of violence scoring higher in HITS do also display higher levels of depression.

### Discussion

The HITS scale is a short instrument that address verbal and physical violence. It has only 4 items and is easily to remember from the health care providers and fill in from the participants. The PHQ-9 scale is a briefly, widely known tool for diagnosis and management of depression. The aim of this study was to measure the Intimate Partner Violence in Primary Health Care in

Greek population and study the correlation with negative effects in mental health. Creating screening programs generally increases rates of identification of Intimate Partner Violence in primary settings. Lack of education of professionals, without specific screening protocols, lack of effective interventions constitutes major problems for prevention and management of violence (Ramsay et al, 2002 and Taft et al, 2012).

In our study, on the overall HITS score, the results show that there is no correlation between violence and educational level ( $P$ -value 0,119). In a research in Bangladesh, for the years 2001-2004 according to General Economics Division and UNDP, although the educational level of women uploaded, the rates of violence didn't decrease (Marium, 2014). Due to the above, they feel unable to confess what had happened to them even to the closest environment.

In our results, we observed that the women who have divorced scored higher on the HITS scale (average score, 9.2) as opposed to the remaining classes whose score lies between 4.8 and 6.72 on average. Violence is one of the most important factor in divorce: women who are victims of violence are significantly more likely to divorce than women who are not abused into the marriage. Accordind to the research of Bowlus and Seitz the fraction of women that are divorced is 6 times higher as opposed to the sample that was abused prior to the past 12 months. This finding is in contrast to the psychology literature that reports victims of violence tend to be enclave in a cycle of violence and are unwilling to move on leaving this situation behind (Bowlus & Seitz, 2005).

On the overall HITS score are not statistically significant across income ( $P$ -value, 0.59). Most of the people believe that a woman with property or with a strong economic position has less risk of being victim of violence. But sometimes a partner/husband feels undermines his authority if a woman has higher economic position than he has and this situation might be lead to violence. The important point, however, for a woman with employment is that if violence does take place, she can leave her violent spouse, without having to choose between violence and poverty (Panda & Agarwal, 2005).

The score for the “*Threaten*” item did statistically differ across sex ( $P$ -value, 0.026),

marital status ( $P$ -value, 0.032), educational level ( $P$ -value, 0.007) and residency ( $P$ -value, 0.022); no statistically significant differences were observed across the different incomes for “*Threaten*” ( $P$ -value, 0.598). Although men are victims of violence by their partners, the highest rates of violence relating to the female sex (U.S. Preventive Services Task Force, 2004). According to the study of Peek-Asa et al, women in small rural areas reported the highest prevalence of Intimate Partner Violence (22.5% and 17.9%) compared to 15.5% for women living in urban areas (Peek-Asa et al, 2011). Socially isolated communities may hold strong collective norms and patriarchal values that make the victims blame themselves and normalize abuse. Victims in rural areas fear the rejection of their community if they leave an abusive relationship. Many of them live in remote areas making difficult to visit social support services. The people with lower education have increased risk to be victims of any type of violence such as psychological abuse (Doherty & Berglund, 2008).

The score for the “*Hurt*” item did statistically differ across education ( $P$ -value, <0,001) and residency ( $P$ -value, 0,002). The participants who had primary education and live in rural areas reported the highest prevalence of Intimate Partner Violence. Increased rates of IPV notice in low socioeconomical status. Women who males partners have lower education, are lacking in social supports and unemployed have more changes to commit violence (Feder & Ramsay, 2003). Women are victims of violence by their partners in societies such as rural areas where there are marked inequalities between men and women, when a man has predominant role, that support a man's right to sex regardless despite the feelings of the woman (WHO, 2002).

In our research participants with lower education level and residents of rural areas tend to appear depressive symptoms more often than the individuals who living in urban areas and have higher education level. This could be happen because of the poor health status, chronic disease, and poverty (Zhou et al, 2014). Accorded to the research of Miech and Shanahan the participants with lower education level have more changes to appear depressive symptoms than those with higher education (Miech & Shanahan, 2000).

In our results, HITS and PHQ-9 score had not any correlation with age. Although, according to the U.S. Department of Justice, in a research for Intimate Partner Violence, for the years 1993-1999 (Rennison, 2001), and respectively Walby's and Allen's research, the younger women generally were more vulnerable to violence (Walby & Allen, 2004). Such as the younger people, mainly the adolescents, tend to appear more often depression than the older people (Garland & Solomons, 2002).

The results of the research show that PHQ-9 is positively associated with HITS score. Main findings suggest that IPV can cause mental disorders in victims in comparison with those who have never experienced IPV. Most of the victims reveal depression, posttraumatic stress disorder, anxiety/neuroses and suicidality scores. Proportions of smoking, drinking and street drug use were also higher in IPV (Bonomi et al, 2009 and Rhodes et al, 2009). Additional, mental disorders may both precede or be a consequence of Intimate Partner Violence (Mont & Forte, 2014).

The severity and extent of IPV exposure can evolve mental health symptoms (Lagdon, Armour & Stringer, 2014). Contrary, a lot of longitudinal researches find that pre-marital history of mental disorders, including depression, can lead to victimization and the development of violent behaviour (Kessler, 2012). The results suggest that when people have mental disorders, such as depression may be important factor for screening them for IPV.

### Limitations

Using paper and electronic questionnaires might be a limitation. Although this will remain an important method of data collection. The opportunity to collect data via the internet has some advantages but also create some challenges. Increasing use of emailing and social net can lead to creation of new products arrive on the market designed under appropriate preconditions (Jones et al, 2008).

In addition, the cut score of 10.5 is not usable because the HITS scoring procedure doesn't allow for fraction of points. The care providers should be suspected violence when the participants have a score greater than 10 (Sherin et al, 1998).

In our research, unfortunately, we encounter a difficulty with the men to refuse to fill in the

tests. The results of the study show small percentages victims of violence and minimal depression, but we must include the fact that people have a difficulty to confess such a painful situation. Big percentage of victims are not able to leave a violence relationship for social-economic reasons. Sometimes they believe that they deserve to be punished in this way for something they do wrong or they fear their partner will become more violent if they decide to confess and leave them (Kaur & Garg, 2008).

### Conclusion

Through this paper we study the frequency of Intimate Partner Violence in Primary Health Care in Greek population and we note that there is correlation between violence in domestic environment with the depressive symptoms. The Greek version of HITS questionnaire measures for the health care professionals because is a short instrument and easily can be remembered from them and easily can be filled in from the patients. Some of the majors problems for preventing Intimate Partner Violence and avoid negative effects on physical and mental health of victims is the lack of research in the field of Intimate Partner Violence, the program organization, guiding instruction and training of health care professionals on issues related to the prevention and treatment of IPV .

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### References

- Arroll B., Goodyear-Smith F., Crengle S., Gunn J., Kerse N., Fishman T., Gunn J., Kerse N., Fishman T., Fallon K., Hatcher S. (2010), Validation of PHQ-2 and PHQ-9 to Screen for Major Depression in the Primary Care Population, *The Annals of Family Medicine*, 8: 348-353.
- Bonomi AE., Anderson ML., Reid RJ., Rivara FP., Carrell D., Thompson RS. (2009), Medical and Psychosocial Diagnoses in Women With a History of Intimate Partner Violence, *Archives of Internal Medicine*, 169(18): 1692-1697
- Bowlus A., Seitz S. (2005), Domestic Violence, Employment, and Divorce, Queen's Economics Department, Working Paper No 1075, Kingston, Ontario, Canada, pp. 1-59.
- Butchart A., Garcia-Moreno C., Mikton C. (2010), Preventing Intimate Partner and Sexual Violence

- Against Women-Taking Action and Generating Evidence, WHO, Geneva, (2): 1-94.
- Chan M., Clark H., Fedotov Y. (2014), Global Status Report on Violence Prevention, WHO, pp. 1-274.
- Chen PH., Rovi S., Vega M., Jacobs A., Johnson MS. (2005), Screening for Domestic Violence in a Predominantly Hispanic Clinical Setting, *Family Practice*, Oxford University Press, 22: 617-623.
- Coker AL., Davis KE., Arias I., Desai S., Sanderson M., Brandt HM., Smith PH. (2002), Physical and Mental Health Effects of Intimate Partner Violence for Men and Women, *American Journal of Preventive Medicine*, 24(4): 260-268.
- Doherty D., Berglund D. (2008), Psychological Abuse- A Discussion Paper, Government of Canada, pp. 1-32.
- Feder G., Ramsay J. (2003), Screening for Domestic Violence, *The British Journal of General Practice*, 53(495): 809-810.
- Feder G., Ramsay J., Dunne D., Rose M., Arsene C., Norman R., Kuntze S., Spencer A., Bacchus L., Hague G., Warburton A., Taket A. (2009), How Far Does Screening Women for Domestic (partner) Violence in Different Health-care Settings Meet Criteria for a Screening Programme? Systematic Reviews of Nine UK National Screening Committee Criteria, *Health Technology Assessment*, 13(16): 1-136.
- FRA: European Union Agency For Fundamental Rights, (2014), Violence Against Women: an EU-wide Survey-Main Results, Austria, pp. 1-193.
- Garland JE., Solomons K. (2002), Early detection of depression in young and elderly people, *British Columbia Medical Journal*, 44(9): 469-472.
- Hyphantis T., Kotsis K., Voulgari PV., Tsifetaki N., Creed F., Drosos AA. (2011), Diagnostic accuracy, internal consistency, and convergent validity of the Greek version of the patient health questionnaire 9 in diagnosing depression in rheumatologic disorders, *Arthritis Care & Research (Hoboken)*, 63(9): 1313-1321.
- Jones S., Murphy F., Edwards M., James J. (2008) Using Online Questionnaires to Conduct Nursing Research, *Nursing Times*, 104: (47)66-69.
- Karathanos V., Kiosses V., Dami Ch., Dimitrakopoulou V., Gouva M., Dimoliatis KI., Translation and Adjustment of the HITS Domestic Violence Screening Tool using Primary Health Care Settings, (2016), Under Assessment.
- Kaur R., Garg S. (2008), Addressing Domestic Violence Against Women: An Unfinished Agenda, *Indian Journal of Community Medicine*, 33(2): 73-76.
- Kessler RC. (2012), The Costs of Depression, *Psychiatric Clinics of North America*, 35(1): 1-14.
- Koutsogiannou P., Dimoliatis KI., Mavridis D., Bellos S., Karathanos V., Jelastopulu E. (2015), Validation of the Postgraduate Hospital Educational Environment Measure (PHEEM) in a sample of 731 Greek residents, *Biomed Central Research Notes*, 8: 734.
- Kroenke K., Spitzer RL., Williams JB. (2001), The PHQ-9, Validity of a Brief Depression Severity Measure, *Journal of General Internal Medicine*, 16(9): 606-613.
- Lagdon S., Armour C., Stringer M. (2014), *Intimate Partner Violence and Mental Health- Adult Experience of Mental Health Outcomes as a Result of Intimate Partner Violence Victimization: A Systematic Review*, *European Journal of Psychotraumatology*, 5: 24794.
- Mariam S. (2014), Women's Level of Education and Its Effect on Domestic Violence in Rural Bangladesh, *IOSR, Journal of Humanities and Social Science*, 19(5)3: 40-45.
- Max W., Rice D., Finklestein E., Bardwell R., Leadbetter S. (2004), The Economic Toll of Intimate Partner Violence Against Women in the United States, *Violence and Victims*, 19(3): 259-272.
- Miech RA., Shanahan MJ. (2000), Socioeconomic Status and Depression Over the Life Course, *Journal of Health and Social Behavior*, 41: 172-176.
- Mont JD., Forte T. (2014), Intimate Partner Violence among Women with Mental Health-Related Activity Limitations: a Canadian Population Based Study, *Biomed Central of Public Health*, 14: 51.
- Panda P., Agarwal B. (2005), Marital Violence, Human Development and Women's Property Status in India, *World Development*, 33(5): 823-850.
- Peek-Asa C., Wallis A., Harland K., Beyer K., Pickey P., Saftlas A. (2011), Rural Disparity in Domestic Violence and Access to Resources, *Journal of Women's Health*, 20(11): 1743-1749.
- Ramsay J., Richardson J., Carter YH., Davidson LL., Feder G. (2002), Should Health Professionals Screen Women for Domestic Violence? Systematic Review, *British Medical Journal*, 10; 325(7359): 314.
- Rennison CM. (2001), Intimate Partner Violence and Age of Victim, 1993-99, Bureau of Justice Statistics, Special Report, U. S. Department of Justice, National Contest Journal, pp. 1-12.
- Rhodes KV., Houry D., Cerulli C., Straus H., Kaslow NJ., McNutt LA. (2009), Intimate Partner Violence and Comorbid Mental Health Conditions Among Urban Male Patients, *The Annals of Family Medicine*, 7(1): 47-55.
- Sherin KM., Sinacore JM., Li X., Zitter RE., Shakil A., (1998), HITS: A Short Domestic Violence Screening Tool for Use in a Family Practice Setting, *Family Medicine Journal*, 30(7): 508-12.
- Sully P., Greenway S., Reeves S. (2005), Domestic Violence- Policing and Health-care: Collaboration and Practice, *Primary Health Care Research and Development*, 6: 31- 36.

- Taft A.J., Small R., Humphreys C., Hegarty K., Walter R., Adams C., Agius P. (2012), Enhanced Maternal and Child Health Nurse Care for Women Experiencing Intimate Partner/Family Violence: Protocol for MOVE, a Cluster Randomised Trial of Screening and Referral in Primary Health Care, *Biomed Central of Public Health*, 12: 811.
- U.S. Preventive Services Task Force, (2004), Screening for Family and Intimate Partner Violence: Recommendation Statement, *The Annals of Internal Medicine*, 140(5):382-386.
- Walby S., Allen J. (2004), Domestic Violence, Sexual Assault and Stalking: Findings from the British Crime Survey, Home Office Research, Development and Statistics Directorate, London, pp. 1-132.
- WHO, (2002), World Report on Violence and Health-Summary, World Health Organization, Geneva, pp. 1-44.
- Zhou X., Bi B., Zheng L., Li Z., Yang H., Song H., Sun Y. (2014), The Prevalence and Risk Factors for Depression Symptoms in a Rural Chinese Sample Population, *Plos One*, 9,(6): e99692.