



MARITAL SATISFACTION AND SOCIAL SUPPORT PERCEPTION INFLUENCES ON MENTAL HEALTH LEVELS AFTER VOLUNTARY INTERRUPTION OF PREGNANCY

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ABSTRACT

Introduction Voluntary interruption of pregnancy (VIP) is a very important research field for clinical psychologists and for health-care professionals in general. VIP is said to be a stressful event inducing severe psychological consequences. Several social and psychological variables play an important role in women's mental health (MH) after VIP. Marital satisfaction (MS) and satisfaction with social support perception (SSSP) should be used to investigate how strongly they predict MH, namely depression (D), anxiety (A) and stress (S) in women undergoing VIP.

Method Women applying for VIP at Maternidade Dr. Alfredo da Costa (n = 45) answered four questionnaires before VIP: Socio-Demographic Questionnaire; Satisfaction with Marital Life Assessment Scale; Satisfaction with Social Support Scale; Depression, Anxiety and Stress Scale. Correlations and regression analyses (RA) were used to test hypothesis about independent variables (socio-demographic factors, MS and SSSP) importance on the explanation of dependent variables (D, A and S).

Results MS subscales presented few correlations with D and with A and none with S. SSSP subscales presented several positive significant correlations with D, A and S; because SSSP higher results represent lower satisfaction this means higher SSSP predicts lower D, A and S. RA showed: MS subscales accounted for the explanation of D, A and S; controlling for MS effect, SSSP total scale accounted for the explanation of A and S.

Keywords: voluntary interruption of pregnancy; marital satisfaction; social support; depression, anxiety and stress; regression analyses.

INTRODUCTION

Over the last decades voluntary interruption of pregnancy (VIP) became an important research field for clinical psychologists as also for health-care professionals in general. Classical conceptions of VIP as a stressful event inducing severe psychological consequences on women undergoing medical interventions for pregnancy interruption (PI) have been challenged recently. One of the reasons for this renewed interest is that a good number of Western countries created legal procedures to make VIP possible in medical settings, while other nations updated older legal instruments in order



to support women requesting VIP. It has always been present at medical and nurses minds that after VIP women develop psychosomatic reactions as well as increases in emotional negative states. From psychosomatic reactions, nausea, vomiting and pain were the easiest to observe. From emotions, depressive mood along the need of rest and recovering pictured a situation supposed to worry clinicians. These observations were made in women who achieved VIP by at least non legal means, and the psychosocial reality falling upon these women's life (shame, guilt and so on) raised the question that psychosomatic and emotional reactions could be, at least partially, a consequence of context rather than a consequence of medical procedures. If we think that when VIP was performed under clandestine conditions the medical intervention was seldom executed in appropriate medical conditions, it is easy to imagine that combining women's psychological reaction with negative consequences of an intervention performed outside the medical rules could only result in something extremely negative.

A different hypothesis came about when psychological variables were controlled before pregnancy in long-term longitudinal studies; Russo and Zirck (1992) used self-esteem assessment to explore the possibility that well-being decrements after VIP are linked to well-being problems already present in women's life several years before detection and pregnancy interruption (PI). They found that after controlling for self-esteem levels before VIP, one PI or more had no significant impact on self-esteem levels assessed after VIP. Among other conclusions drawn by these authors one deserves a special appreciation: lower self-esteem is related with lower age at the first VIP. Because they also found that lower self-esteem is related with lower family income and lower education, one should reason that poverty and lack of resources, together with PI, compose a social picture hard to overcome. It should not be ignored that we are dealing with data from a long longitudinal study where the retention rate is of 90%. Because this means that 10% of the sample was lost, and because losses may be related to psychosocial specificities linked with difficulties on coping with reproduction, the hypothesis that the most fragile women are underrepresented in the final sample should not be overruled. More recently Russo and Dabul (1997) observed that well-being assessed after VIP is positively and independently related to socio-demographic factors such as education, income and active occupational status if well-being before pregnancy is controlled. So, it would be too easy to conclude that psychological distress after VIP is neglectable or meaningless, but certainly this is not the case.

Very important is the conclusion that the relative risk of having a mental health condition after VIP (for adult women undergoing a single interruption, legal and executed by the first trimester of gestation) is no bigger than the same risk after the delivery of a baby resulting from an unwanted pregnancy (Major, Appelbaum, Beckman, Dutton, Russo and West, 2009); these authors assumed that scientific evidence does not support a causal association between VIP and mental health problems as opposed to other factors already present in women's life before VIP or other factors that parallel PI. Because most part of studies in this field is correlational or associative in design the actual available data could never support a causative hypothesis. Back to empirical findings, if mental health problems after VIP (in some conditions) are not surpassing mental health problems related to non-terminated unwanted pregnancies alternative hypothesis are needed. The idea that mental health problems could depend on pre-existing aspects of psychological nature is an important one, and if confirmed it should be interesting to discuss if those pre-existing problems do or do not interact with the psychological experience happening when women undergo VIP.

When people are asked to express their attitudes on other people deciding to undergo VIP, women show more liberal attitudes and stronger approval for women's autonomy in this field of decision than men (Patel and Johns, 2009).



Moderator variables operating among WAVIP have been under scrutiny. Coleman, Reardon, Strahan and Cogle (2005) suggest the existence of three variables capable of influencing VIP psychological impact: age, beliefs about the foetus and social factors (culture, ethnicity and socioeconomic status). For the same authors as mediator variables we should consider at the first place self-efficacy which in specific literature has been showing to mediate between perceptions of social support and positive adjustment after VIP. Also as mediators should be considered attributions of blame and subsequent reproductive events.

RESEARCH QUESTION AND HYPOTHESIS

According to the knowledge presented at the previous theoretical introduction we would like to investigate about the psychosocial variables that are able to predict psychological health levels in WAVIP in hospital settings.

Variables most suitable to inform about the psychological experience of these women are depression, anxiety and stress. As predictors of the first ones, and after using socio-demographic variables, we would like to use marital satisfaction and satisfaction with social support.

As hypothesis, we think the following are of global interest for the understanding of WAVIP: H1 – marital satisfaction and satisfaction with social support present negative and significant relations with anxiety, depression and stress; H2 – after controlling for the effects of socio-demographic factors, marital satisfaction remains as a good predictor of depression, anxiety and stress; H3 – after controlling for the effects of socio-demographic factors and of marital satisfaction, satisfaction with social support is still a good predictor of depression, anxiety and stress.

METHOD

Variables definition Due to the statistical nature of correlations, in H1 there are neither independent nor dependent variables, however from the theoretical frame point of view marital satisfaction and satisfaction with social support are considered independent variables and depression, anxiety and stress are considered dependent variables. For H2 and for H3 socio-demographic factors, marital satisfaction and satisfaction with social support are the independent variables. In H2 and H3 depression, anxiety and stress are the dependent variables.

INSTRUMENTS

Socio-Demographic Questionnaire In order to assess personal information of participants in our sample, a Socio-Demographic Questionnaire was created. First section was about the woman's descriptive variables (age, occupational status, marital status, number of successful years of study, professional area, family composition and socio-economic status recorded under the Graffar method (1956). Second section was dedicated to the woman's partner (age, occupational status, marital status, number of successful years of study, professional area, family composition and socio-economic status). Couples variables, like socio-economic status, were defined using both woman and man data. Third section was about the marital history of the woman (number of years of the present relationship, previous relationships and respective lasting). The fourth and final section was about the woman's obstetric history (number of previous pregnancies, the outcome of those pregnancies, the age of the woman at those pregnancies, etc.).

Satisfaction with Marital Life Assessment Scale (SMLAS) The SMLAS (Narciso, 2001) is a psychometric instrument built for the study of Portuguese couples, namely about their satisfaction with couples life in several aspects of the dimension "couple's functioning" (family functions, leisure



time, autonomy, extra-family relations, communication and conflicts) as also in several aspects of the dimension “love” (feelings and feelings expression, sexuality, emotional intimacy, continuity, physical characteristics and psychological characteristics). According to the author recent review the most useful subscales to interpret the information gathered by the SMLAS are: family functions, autonomy, leisure time, social net, communication and conflicts, sexuality and emotional intimacy). Calculating the arithmetical mean of all the items, it is also possible to obtain a score for the dimension “global marital satisfaction”.

Satisfaction with Social Support Scale (SSSS) This is a self-report measure created to assess the individual’s satisfaction with social support (Pais-Ribeiro, 1999). This instrument is composed by four dimensions: satisfaction with friends, intimacy, satisfaction with family, and social activities). Using all the items, it is also possible to obtain a global score of satisfaction with social support.

Depression, Anxiety and Stress Scales (DASS) The DASS (Lovibond and Lovibond, 1995) is designed to produce information simultaneously about three different variables linked to emotional functioning and of extreme importance for the evaluation of psychological suffering: depression, anxiety and stress. This instrument has got two versions: a long one (42 items) and a short one (21 items). For this work we chose the shortest version and we used the Portuguese version of the DASS (Pais-Ribeiro, Honrado & Leal, 2004).

Reliability analyses Subscales and total scales of SMLAS, SSSS and DAS were submitted to reliability analyses with very good results. More detailed results from these analyses can be found at Santos (2010).

PROCEDURE

In order to obtain a sample of WAVIP we decide to work at the Consultation of Non-Wanted Pregnancy of the Maternidade Dr. Alfredo da Costa, a reference hospital for women’s health at Lisbon, Portugal. As a first step, the authorization of the hospital’s Ethical Committee as well as the authorization of the Consultation’s Director were obtained. While approaching women who attended this consultation, the purposes and procedures of this research were fully explained. At the end, if patients agreed to participate, two forms were signed by both the researcher and the participant: the “Form of Information to the Participant” was kept by the participant and the “Form of Informed Consent” was kept by the researcher. Then participants were asked to fill the instruments described above. At the end the researcher thanked the participants’ cooperation and placed her self at the participants disposal for any kind of information. A sample of 45 women with no more than 10 weeks of gestation was obtained.

RESULTS

Sample description A more detailed description of the sample as well as a more detailed analysis of results can be found at Santos (2010). Women of this sample are between 16 and 42 years old ($M = 26.8$, $SD = 6.5$), Portuguese (with only one exception), living at Lisbon urban area, single for the most of the cases (62.2%) while smaller proportions are living out of wedlock (22.2%) or married (11.1%) or separated/divorced (11.1%), active in terms of their occupational status (80.0%; 51.1% are working, 24.4% are studying and 4.4% are both) while 20.0% are inactive (15.6% are unemployed and 4.4% have no occupation at all), almost half had no previous marital experiences (48.9%) while 44.4% had one and 4.4% had two (only one participant reported having had three meaningless relationships), the number of successful years of study varied from 4 to 18 ($M = 10.96$, $SD = 2.8$), the socioeconomic status was quite median (53.3% for level III, 31.1% for II, 8.9% for IV, 4.4 for I and 2.2% for V), about the professional areas with had very few women from the most



differentiated jobs (4.4% at category 1 and 2.2 at category 2) with 15.6% at the non qualified workers and a greater proportion at the intermediate jobs (48.8%) while a smaller proportion could not fit in any category (24.4% were students and 4.4% had no occupation at all), very few were living alone (2.2%) and the most of them were living with people of their own families (11.1% with husband or partner; 8.9% with sons; 26.7% with husband and sons; 11.1% with their fathers; 8.9% with fathers and brothers; 11,1% with husband, father and sons; 6.7% with fathers and sons; 4.4% with fathers, sons and brothers) while only 2.2% lived with non related people. In the field of obstetrical history, a bigger proportion (60.0%) are primi or multiparous while a smaller proportion are nulliparous (40.0%), despite the fact that the most frequent situation is having no children (40.0%) a good number has got one (31.1%) or two (20.0%) sons while reduced proportions (2.2%) have got from 3 to 6 sons, these women' sons were born with birth weights varying from 640g to 3950g (M = 2930g, SD = 880g), in most of the cases births were at term and deliveries were eutocic, a very large proportion (84.4%) had no previous history of spontaneous interruption of pregnancy and the same happened about voluntary interruption (68.9%). On the partner's domain we may say that men are somewhat older (M = 30.7, SD = 9.3%), they have a very similar number of successful years of study (M = 10.6, SD = 4.0, a very large proportion is active from the occupational point of view (68.9% are working, 11.1 are students and 20.0% are unemployed), whereas the greater proportion belongs to the non qualified professional area (26.7%) and a smaller proportion belongs to the hand working professional area (22.2%) only the smallest proportion is from the most skilled professional area (11.1%) and finally the socioeconomic status was also quite median (40.0% for level III, 31.1% for IV, 17.8% for II, 11.1 for I and 0.0% for V).

Testing H1 For the testing of H1 (marital satisfaction and satisfaction with social support present negative and significant relations with anxiety, depression and stress) we performed a series of Pearson correlations between all subscales belonging to SMLAS, to SSSS and to DASS. Coefficients resulting from these correlations are displayed at Table 1.

Table 1. Pearson correlations' coefficients (n = 45) between subscales of SMLAS(1), SSSS(2) and DASS(3).

DA SS	SMLAS								SSSS				
	FF	LT	SN	A	CC	S	EI	TS ML	I	SA	SFs	SFy	TS SS
D	-.163	-.333 *	-.182	-.182	-.354 *	-.192	-.292	-.194	.369 *	.219	.401 **	.377 *	.510 **
A	-.174	-.331 *	-.368 *	-.238	-.236	-.025	-.166	-.090	.183	.290	.230	.340 *	.423 **
S	-.084	-.262	-.261	-.224	-.286	-.064	-.209	-.097	.325 *	.210	.396 **	.424 **	.490 **

1: FF (Family Functions), LT (Leisure Time), SN (Social Net), A (Autonomy), CC (Communication and Conflicts), S (Sexuality), EI (Emotional Intimacy) and TSML (Total Satisfaction with Marital Life). 2: I (Intimacy), SA (Social Activities), SFs (Satisfaction with Friends), SFy (Satisfaction with Family) and TSSS (Total Satisfaction with Social Support). 3: D (Depression), A (Anxiety) and S (Stress).*: p < .05 (2 tailed); **: p < .001 (2 tailed).



According to Pearson coefficients presented in Table 1, H1 seems to be partially confirmed once that depression, anxiety and stress present very few significant relations with variables belonging to the domain of satisfaction with marital life, whereas with variables from the domain of satisfaction with social support most of the relations are significant. To start by the associations with SMLAS subscales, one can see that: a) depression correlates negatively and significantly with leisure time ($r = -.333$, $p = .027$) and with communication and conflicts ($r = -.354$, $p = .018$); b) anxiety correlates negatively and significantly with leisure time ($r = -.331$, $p = .027$) and with social net ($r = -.368$, $p = .013$) and c) stress does not correlate with any one of the subscales related to marital satisfaction. Stepping into relations with SSSS subscales, one may observe that: a) depression correlates significantly with intimacy ($r = .369$, $p = .014$) as also with satisfaction with friends ($r = .401$, $p = .007$) with satisfaction with family ($r = .377$, $p = .013$) and with total satisfaction with social support ($r = .510$, $p = .000$), b) anxiety correlates significantly with satisfaction with family ($r = .340$, $p = .024$) and with total satisfaction with social support ($r = .423$, $p = .004$) and c) stress correlates significantly with intimacy ($r = .325$, $p = .029$), satisfaction with friends ($r = .369$, $p = .007$), satisfaction with family ($r = .424$, $p = .004$) and also with total satisfaction with social support ($r = .490$, $p = .001$). Because SSSS higher results mean less satisfaction with social support, significant correlations between DASS subscales and SSSS subscales must be interpreted according to this particularity.

Testing H2 and H3 In order to test H2 and H3 we performed a series of hierarchic multiple regression analyses (HMRA), two for each of the dependent variables (depression, anxiety and stress). Socio-demographic factors (introduced at the first model), satisfaction with marital life (introduced at the second model) and satisfaction with social support (introduced at the third model) were used as independent variables. To avoid multi-collinearity problems resulting from high correlations between SMLAS subscales and the total scale of satisfaction with marital life, as also resulting from high correlations between SSSS subscales and the total scale of satisfaction with social support, we decided to perform a first analyse using only the subscales of SMLAS and of SSSS and for a second analyse we decided to use only the total scales of both SMLAS and of SSSS. More detailed tables with Beta unstandardized and standardized coefficients and significance levels are displayed at Santos (2010).

Table 2. HMRA for dependent variable depression, using socio-demographic factors (Model 1), SMLAS subscales (Model 2) and SSSS subscales (Model 3) as independent variables.

Model	R	R ²	Adjusted R ²	R ² Change	F Change	Sig. FChange
1	.469	.220	-.086	.220	.718	.712
2	.768	.590	.273	.370	3.308	.018
3	.810	.655	.253	.065	.853	.510

According to Table 2, HMRA shows that the subscales of satisfaction with marital life do increase the percentage of explained variance of dependent variable depression and that increase is statistically significant (F Change = 3.308, $p = .018$). About the subscales of satisfaction with social support, the increase in depression's explained variance does not reach the significance level (F Change .853, $p = .510$). This way, H2 is confirmed, but the same does not go for H3 in what concerns depression prediction by subscales of SMLAS and of SSSS.



Table 3. HMRA for dependent variable depression, using socio-demographic factors (Model 1), SMLAS total scale (Model 2) and SSSS total scale (Model 3) as independent variables.

Model	R	R ²	Adjusted R ²	R ² Change	F Change	Sig. FChange
1	.672	.451	.152	.451	1.506	.195
2	.712	.507	.201	.056	2.364	.139
3	.728	.530	.201	.023	.993	.331

As it is observable in Table 3, the total scales of both SMLAS and SSSS are not able to increase significantly the amount of explained variance of dependent variable depression. So H2 and H3 are not confirmed in what concerns depression prediction by the total scales of SMLAS and of SSSS.

Table 4. HMRA for dependent variable anxiety, using socio-demographic factors (Model 1), SMLAS subscales (Model 2) and SSSS subscales (Model 3) as independent variables.

Model	R	R ²	Adjusted R ²	R ² Change	F Change	Sig. FChange
1	.333	.111	-.226	.111	.329	.972
2	.718	.516	.158	.405	3.207	.019
3	.746	.556	.065	.040	.430	.785

Looking to results present at Table 4, subscales of SMLAS do increase the percentage of explained variance of dependent variable anxiety and that increase is significant (F Change = 3.207, $p = .019$). For the subscales of SSSS the increase is too small and not significant (F Change = .430, $p = .785$). Being so, H2 is confirmed, but H3 is not about prediction of anxiety by subscales of SMLAS and of SSSS.

Table 5. HMRA for dependent variable anxiety, using socio-demographic factors (Model 1), SMLAS total scale (Model 2) and SSSS total scale (Model 3) as independent variables.

Model	R	R ²	Adjusted R ²	R ² Change	F Change	Sig. FChange
1	.542	.294	-.074	.294	.798	.649
2	.572	.327	-.070	.033	1.093	.307
3	.647	.418	.030	.091	3.271	.085

About results in Table 5, it is important to note that the total scale of SMLAS does not increase the percentage of explained variance of dependent variable anxiety (F Change = 1.093, $p = .307$), but the opposite happens with the total scale of SSSS which increases nearly significantly the explained percentage of variance of anxiety (F Change = 3.271, $p = .085$). So, for prediction of anxiety by the total scales of SMLAS and of SSSS, H2 is not confirmed but H3 is very close to its confirmation.

Table 6. HMRA for dependent variable stress, using socio-demographic factors (Model 1), SMLAS subscales (Model 2) and SSSS subscales (Model 3) as independent variables.

Model	R	R ²	Adjusted R ²	R ² Change	F Change	Sig. FChange
1	.479	.230	-.062	.230	.786	.651
2	.761	.579	.268	.349	3.184	.020
3	.813	.661	.286	.082	1.144	.366



As for Table 6, subscales of SMLAS increase significantly the percentage of explained variance of dependent variable stress and that increase is statistically significant (F Change = 3.184, $p = .020$), but about subscales of SSSS the increase is not significant (F Change = 1.144, $p = .366$).

Table 7. HMRA for dependent variable stress, using socio-demographic factors (Model 1), SMLAS total scale (Model 2) and SSSS total scale (Model 3) as independent variables.

Model	R	R ²	Adjusted R ²	R ² Change	F Change	Sig. F Change
1	.611	.374	.047	.374	1.144	.375
2	.611	.374	.004	.000	.002	.966
3	.750	.563	.271	.189	9.061	.007

Finally, in Table 7 it is obvious that the total scale of SMLAS is not able to increase the percentage of explained variance of the dependent variable stress and so its impact is not significant (F Change = .002, $p = .966$). On the contrary, the total scale of SSSS increases the percentage of explained variance of dependent variable stress and this increase is statistically significant (F Change = 9.061, $p = .007$). According to this, H2 is not confirmed but H3 is.

DISCUSSION

According to analyses displayed above some conclusions can be drawn from data offered by our sample. First, about mental health levels among WAVIP satisfaction with social support seems to be a much better predictor than satisfaction with marital life. This is particularly remarkable when we realize that among correlations between SMLAS subscales and DASS subscales only four were significant and sixteen were not. On the contrary, among correlations between SSSS subscales and DASS subscales, ten were significant and five were not. This seems quite strange once we are dealing with women who have to take an important decision about their reproductive life which has something built inside their marital relationships. Is it possible that for these women reproduction is still something belonging exclusively to the feminine universe? Are these women living with men that voluntarily or not are excluded from family planning? When we work with these women, are we aware that among these couples social support at the marital relationship is not effective (about reproductive issues) and that possibly these women are seeking for support in relationships outside the marital universe, namely support at social relations with other women?

Second, HMRA enable us to conclude that, after controlling socio-demographic variables, among WAVIP, marital satisfaction and social support satisfaction still are significant predictors of depression, anxiety and stress. The only regression analyse where this does not happen is the one where in model 2 we used SMLAS total scale, in model 3 we used SSSS total scale and as dependent variable we used depression. Now looking for prediction of depression; it is clear that (after controlling socio-demographic variables) sub-domains of marital satisfaction are significant predictors, which after been controlled make that sub-domains of social support satisfaction show no predictive power. Stepping into prediction of anxiety; sub-domains of marital satisfaction are good predictors, which after been controlled make that sub-domains of social support satisfaction show no predictive power. On the contrary, when we look for prediction of anxiety using total scales of SMLAS and of SSSS, (after controlling socio-demographic variables) marital satisfaction is not a good predictor, but after controlling all other variables social support satisfaction shows to be a good predictor. Finally, observing prediction of stress, (after controlling socio-demographic variables) sub-domains of marital satisfaction are good predictors, which after been controlled make that sub-domains of social support satisfaction show no predictive power. On the contrary, when we look for



prediction of stress using total scales of SMLAS and of SSSS, after controlling socio-demographic variables marital satisfaction is not a good predictor, but after controlling all other variables social support satisfaction is a good predictor.

So, it is possible that these results indicate the importance of assessing psychological variables while assessing women before the performance of a surgical interruption of pregnancy. Before and after VIP, the identification of relational resources available to these women and the need to work with them about the complete understanding of their presence as well as of their possible benefits should be on the focus of psychological support. Finally, it should be on the psychologist mind the fact that the women who most need support on this moment are women who have more difficulty about recognizing their needs and also are the ones who are less likely to be able of requiring support. The exploring and working through of these issues with these clients is never a task to be underestimated.

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