Chapter 05

Emotional Control, Psychological Morbility and Insecure Attachment in Women with HPV and Cervical Cancer

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Abstract

This study analyzed the associations between psychological morbidity (anxiety/depression), emotional control (anger, anxiety, depressed mood) and insecure attachment (anxiety and avoidance), and the differences in those variables, taking into consideration the Human Papillomavirus (HPV) type (low/high risk) and the stage of cervical cancer (pre cancer, localized, and advanced). The study design was correlational and the sample included 209 women with HPV and 200 women with cervical cancer who answered the Hospital Anxiety and Depression Scale (HADS), the Courtauld Emotional Control Scale (CECS), and the Experiences in Close Relationships Scale (ERC-short-form). A positive association between emotional control and insecure attachment in women with HPV and cervical cancer was found as well as a positive association between psychological morbidity and insecure attachment, in women with HPV. There were no differences according to HPV type. Women with localized cervical cancer reported higher psychological morbidity compared to those in a pre-cancer stage. According to the results, women with HPV and cervical cancer should be evaluated for psychological morbidity and emotional control, since these variables were associated with an insecure attachment, particularly in women with localized cervical cancer and regardless of HPV type, in women with HPV.

Introduction

Cancer is a world public health problem. According to the World Health Organization [1], 12 million people are diagnosed each year with cancer worldwide, approximately 8 million die of this disease, and developing countries represent 2/3 of cancer victims. This global panorama of morbidity and mortality has a physical, psychological, family, and social impact [2].

Cervical cancer is among the world's leading malignant neoplasm and is the third most common cancer among women. This cancer develops at the lower end of the uterus due to the anomalous

development of cells in the cervix, which uncontrollably multiply, causing lesions that can evolve into cancerous lesions [3]. The Human Papilloma virus (HPV) has been identified as one of the leading causes of the onset of cervical cancer. This disease has a slow progression with different stages of evolution, from HPV infection to the onset of cervical cancer [3]. HPV infects basal epithelial cells and can cause benign and malignant lesions. There are more than 200 HPV strains identified, but only a few are oncogenic. Epidemiological studies and clinical evidence confirm that HPV types 16 and 18 are the most common and high-risk carcinogens associated with cervical cancer, while types 6 and 11 are the most common in benign and premalignant lesions [4,5].

HPV infection is necessary for cervical cancer development, and in approximately 10% of women becomes chronic. A chronic infection with a high-risk HPV genotype is needed, but not a sufficient condition for the development of cervical cancer. The majority of women eliminate the virus after 1-2 years, although in some cases, the infection may persist, leading to more serious pre-cancerous lesions of which about 3% may develop into malignant lesions [3].

Currently, an estimated 291 million women are infected with HPV, and HPV infections account for 530,000 cases of cervical cancer, resulting in approximately 264,000 female deaths per year [1]. In underdeveloped countries, less than 50% of women diagnosed with cervical cancer survive beyond five years, which reflects the fact that diagnosis was delayed, often occurring at an advanced stage. These data contrast with rates found in developed countries, where survival at five years is about 66% [6].

The International Gynecological Oncology Committee [7] defined guidelines for disease stages regarding cervical cancer treatment. Treatment takes into consideration prognostic factors (e.g. histological type, lymphovascular involvement, tumor volume, lymph node metastasis, and clinical staging), [8]. Disease stage is classified as pre-cancer (corresponding to stage IA), localized disease (from stage IA1 to stage II), and advanced disease (stages III and IV).

The diagnosis of a chronic disease such as HPV and cervical cancer often leads to anxiety and depression [9]. Regarding HPV, psychological morbidity is associated with guilt and shame due to the diagnosis and, in the case of cervical cancer, is mainly related to the diagnosis, prognosis, and types of treatment [10,11]. Anxiety and depression are higher in patients at an early cervical cancer stage, and in women with precancerous lesions, than in the general population [12]. Cervical cancer survivors show worse mental health than the general population [13]. HPV infection is associated, in addition to psychological morbidity, with a decrease in sexual activity that negatively impacts sexual well-being, especially in women with emotional suppression [14,15].

Individuals' attachment styles are relevant because they play a fundamental role in interpersonal relationships, emotional control, and coping with stressful situations [16]. A secure attachment may buffer stress, thus facilitating emotional adaptation [17]. Several studies have examined the role of attachment in health outcomes, although the literature does not specifically address the relationship between attachment styles and HPV types. However, Hajializadeh and colleagues [18] found an association between attachment styles and barriers to cervical screening tests i.e. an insecure style of attachment was a predictor of barriers for women to undergo a cervical screening test. In women with cancer, Porter and colleagues [19] found that avoidant attachment was associated with higher levels of depression. Individuals with insecure attachment may experience less distress, but unconsciously suppress negative emotions by experiencing them physiologically [20]. Patients with metastatic cancer and insecure attachment report more stress symptoms [21,22], and patients with insecure attachment are more likely to experience high levels of distress compared to patients with secure attachment [23]. Moreover, an insecure attachment style has also been associated with poorer adjustment and more emotional suppression [20].

Secure attachment has been associated with better emotional control and adaptation to stress, and was found to be a predictor of

lower psychological morbidity [24]. Cicero and colleagues [25] also showed that anxious attachment was a predictor of psychological adaptation to cancer. Patients with high levels of anxious attachment also experience high levels of hopelessness and anxious worry. Emotional suppression and attempts to control the expression of negative affect have been associated with emotional problems, in chronic patients [26], whereas a less restrictive style of emotional regulation seems to promote a better adaptation to the chronic disease [27,28].

Knowing patients' attachment style and whether they feel distress and employ emotional suppression strategies is important in order to predict which patients will need more support in adapting to the disease. The diagnosis of cancer may activate emotional vulnerability in the patient's relationship with the partner that may impact the adaptation to the disease. A study with Portuguese women with breast cancer showed that secure attachment had an impact on interpersonal relationships that was mediated by the communication of emotions, and insecure attachment had an effect on psychological outcomes that was fully mediated by emotional control and partially mediated by the communication of emotions (cf. Ávila, Brandão, Teixeira, Coimbra, & Matos, [29]). Thus, knowing how participants' psychological morbidity and emotional control are related to insecure attachment (anxious and avoidant) taking into account HPV type (low/high risk) and stage of cervical cancer (pre-cancer, localized, and advanced) is fundamental to design specific intervention tailored to patients' characteristics in order to promote their adaptation to the disease.

Method

Participants

The sample included 209 women with HPV and 200 women with cervical cancer, with the following inclusion criteria: adult women with an HPV or cervical cancer diagnosis, being followed at an outpatient clinic, and having a sexual partner. Exclusion criteria were: presence of severe psychiatric disorders (e.g., dementia, schizophrenia, or other psychosis diagnosed and recorded in the patients' clinical

process) and, in the case of women with HPV, pregnancy, and other sexually transmitted diseases.

Procedure

This study used a cross-sectional design and data were collected in three public hospitals in Portugal. The Ethics Committees of the three hospitals approved the study. The patient's physician identified HPV and cervical cancer patients, according to the inclusion criteria. All patients were duly informed about the purpose of the study, data confidentiality, voluntary participation, and all signed an informed consent form. Participants answered the questionnaires in the presence of one of the researchers at an appropriately quiet location, in the hospital.

Measures

Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, [30]; Portuguese version by Pais-Ribeiro et al., [31]). This scale assesses psychological morbidity and includes 14 items divided into two subscales: anxiety and depression. Scores range from 0 to 21 for both subscales. Scores between 0 and 7 indicate 'no morbidity', between 8 and 10 'mild', between 11 and 14 'moderate', and between 15 and 21 'severe'. In the Portuguese version, Cronbach alphas were .76 (anxiety) and .81 (depression). In the sample of women with HPV, Cronbach's alphas were .88 (depression) and .91 (anxiety), whereas for cervical cancer they were .86 (depression) and .80 (anxiety). In this study only the total score was used with an alpha of .93 for women with HPV and .87 for women with cervical cancer.

Courtauld Emotional Control Scale (CECS; Watson & Greer, [32]; Portuguese version by Patrão, [33]). This scale includes 21 items and assesses emotional control in three scales: anger, anxiety, and depressed mood. Items are answered in a four-point Likert-type scale ranging from 'almost never' to 'almost always'. Higher scores indicate greater emotional suppression or control. Cronbach alphas for the Portuguese version range between .88 and .91. In the sample of women with HPV, Cronbach's alphas ranged between .70, and .88 and

in the sample of women with cervical cancer between .72 and .85. In this study only the total score was used with an alpha of .88 for women with HPV and .85 for women with cervical cancer.

Experiences in Close Relationships Scale (ERC - Short Form; Wei et al., [34]; Portuguese version by Paiva & Figueiredo, [35]). This scale includes 12 items divided into two subscales: anxiety and avoidance. High scores in each subscale indicate attachment anxiety or avoidance, respectively and the total score assesses insecure attachment. Cronbach's alphas in the Portuguese version were .78 (anxiety) and .84 (avoidance). In this study, for the sample of women with HPV alphas were .70 (anxiety) and .75 (avoidance), and in women with cervical cancer .77 (anxiety) and .75 (avoidance). In this study only the total score was used with an alpha of .75 for women with HPV and .77 for women with cervical cancer.

Data Analysis

The IBM SPSS Statistics 24.0 software was used for the statistical analysis of data. Descriptive statistics were performed for sociodemographic and clinical variables, and Pearson's coefficient was used to evaluate the relationship between psychological variables: emotional control, psychological morbidity, and attachment. The t-test and ANOVA were used to analyze differences in psychological variables, according to the type of HPV and on the stage of cervical cancer.

Results

Sample

Age ranged between 20 and 65 years old, with a mean age of 40 (SD = 10.40), in women with HPV. From the total sample, 36.8% had completed high school education, and 20.6% higher education. Women with cervical cancer were aged 23 to 79 years old, with a mean age of 48 (SD = 11.69). Of the total sample, 31% had completed middle school, and 25.5% secondary education. Table 1 shows the sample characteristics.

Table 1: Sociodemographic characteristics of women with HPV and cervical cancer.

Women with HPV					*Women with Cervical Cancer*				
	Min	Max	Mean	*SD*		Min	Max	Mean	*SD*
Patients' age	20	65	39.67	10.40		23	79	48.08	11.69
				%					%
Marital Status									
Single				4.3	Single				14.0
Married/Common Law Union				56.4	Married/Common Law Union				66.5
Partner				32.9	Partner				0.0
Widow				0.0	Widow				6.5
Divorced				0.0	Divorced				13.0
Education									
None				0.0	None				2.5
Primary				12.9	Primary				22.5
Middle				10.5	Middle				4.5
Lower secondary				19.1	Lower secondary				25.5
Secondary				36.8	Secondary				31.0
Post-secondary				20.6	Post-secondary				14.0
Religion									
Yes				97.2	Yes				84.0
No				7.2	No				16.0
HPV Type					**Disease Stage**				
Type 6/11 Low Risk				35.9	Pre cancer				11.5
Type 16/18 High				64.1	Localized stage				42.5
					Advanced stage				46.0

Relationship between Emotional Control, Psychological Morbidity, and Insecure Attachment in Women with HPV and Cervical Cancer

Results showed a positive association between emotional control (r = .295, p <. 001) and insecure attachment in women with HPV and cervical cancer (r = .179, p <. 001), and a positive association between psychological morbidity and insecure attachment in women with HPV (r = .388, p <. 001). Thus, more emotional control was associated with more insecure attachment in women with HPV and cervical cancer, and more psychological morbidity was associated with more insecure attachment, in women with HPV (see Table 2).

Differences in Psychological Morbidity, Emotional Control, and Insecure Attachment as a Function of HPV type and Stage of Cervical Cancer

There were no differences in emotional control [t (207) = .916, p = .361], psychological morbidity [t (207) = .376, p = .707], and insecure attachment [t (207) = 1.744, p = .083] according to HPV type. No differences were found on emotional control [F (2,197) = .052, p = .949] and insecure attachment [F (2,148) = 2,951, p = .055)] according to cervical cancer stage, but there were differences in psychological morbidity [F (2,197) = 3.48, p = .033] (see Table 3).

Table 2: Correlations between emotional control, psychological morbidity, and insecure attachment in women with HPV and cervical cancer.

	1	2	3
1. Emotional Control	---	.374**	.295**
	---	.073	.179*
2. Psychological Morbidity		---	.388**
		---	.122
3. Insecure Attachment			---

M	50.27	13.11	25.60
	50.27	16.07	2.26
SD	10.63	8.69	8.56
	12.20	8.42	.936

Note: No Italics: Women with HPV; Italics: Women with cervical cancer.
**p < .01; *p < .05

Table 3: Differences in psychological morbidity, emotional control, insecure attachment, as a function of the type of HPV and stage of cervical cancer.

	HPV type			Cervical cancer stage			
	Low Risk (6/11)	High Risk (16/18)		Pre Cancer	Localized Disease	Advanced Disease	
	N = 75	N = 134		N = 23	N = 85	N = 92	
	Mean (DP)		t (207)	Mean (DP)			F (2.197)
Emotional Control	51.17 (11.55)	49.76 (10.09)	(207) .916	49.57 (8.97)	50.49 (13.29)	50.24 (11.96)	0.52
Psychological Morbidity	13.41 (8.18)	12.94 (8.99)	(207) .376	13.17 (6.01)	17.72 (9.34)	15.27 (7.78)	3.48*
Insecure Attachment	26.98 (9.2)	24.83 (8.11)	(207) 1.74	1.79 (.827)	2.37 (.923)	2.29 (.950)	2.95

Note. *p < .05; **p < .01

Discussion and Conclusions

In this study, positive associations between emotional control and insecure attachment in women with HPV and cervical cancer were found as well as a positive association between psychological morbidity and insecure attachment in women with HPV. Greater emotional control (emotional suppression) was associated with greater insecure attachment, in women with HPV and cervical cancer. These results are in accordance with the literature, since negative feelings have been associated with greater insecure attachment. In fact, negative feelings associated with HPV and cervical cancer are often experienced through silence and denial [36] and have been associated with emotional suppression [37] that predicts an insecure attachment with the partner [38,39]. Emotional suppression was also associated with more psychological distress [15].

Women with an insecure attachment towards the partner have reported lack of confidence, and avoidance that showed an adverse impact on the couple's dynamics [40,41]. Insecure attachment has been found to be a predictor of whether women undergo HPV test-

ing (Hajlalizadeh et al., 2013). The more insecure the attachment, the greater the barriers regarding test screening, due to fear and concerns that women experience towards the partner [42]. Having a diagnosis of HPV has a negative emotional impact on women [43], and women with cervical cancer report persistent fears facing a diagnosis [44].

Moreover, greater psychological morbidity was associated with greater insecure attachment in women with HPV, which is in accordance with the literature, since HPV diagnosis impacts the woman's psychosocial and emotional life being associated with anxiety, depression, and hopelessness [45] and with physical discomfort, fear of infection, greater sexual dissatisfaction, and avoidant attachment as well regarding treatment [37,46]. In women with cancer, secure attachment has been shown to be important in adapting to post-treatment cancer [29]. A stable relationship strengthens coping with the disease, whereas an unstable relationship, with low availability of support, was associated with psychological morbidity [47].

In women with cervical cancer, there were significant differences in psychological morbidity according to disease stage. Women with localized cancer reported higher psychological morbidity than women in a pre-cancer stage. These results are in agreement with the literature since women with cervical cancer experience worry, anxiety and depression due to concerns about the uncertainty of diagnosis [48-50] and fears regarding the stigmatization associated with cancer [51]. The results also show that psychological morbidity is present after a cervical cancer diagnosis [52].

This study has some limitations that need to be acknowledged, such as its cross-sectional design, the exclusive use of self-report measures, and the non-inclusion of women's partners. Future studies should employ a longitudinal design to evaluate the contribution of partners' perceptions towards disease adaptation over time in women with HPV and cervical cancer.

Regarding adaptation to the disease, in terms of implications for clinical practice, the results emphasize the need for women with HPV and cervical cancer to be evaluated on psychological morbidity and

emotional control. Intervention programs should also be designed and implemented taking into account the couple's attachment style.

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