

Background

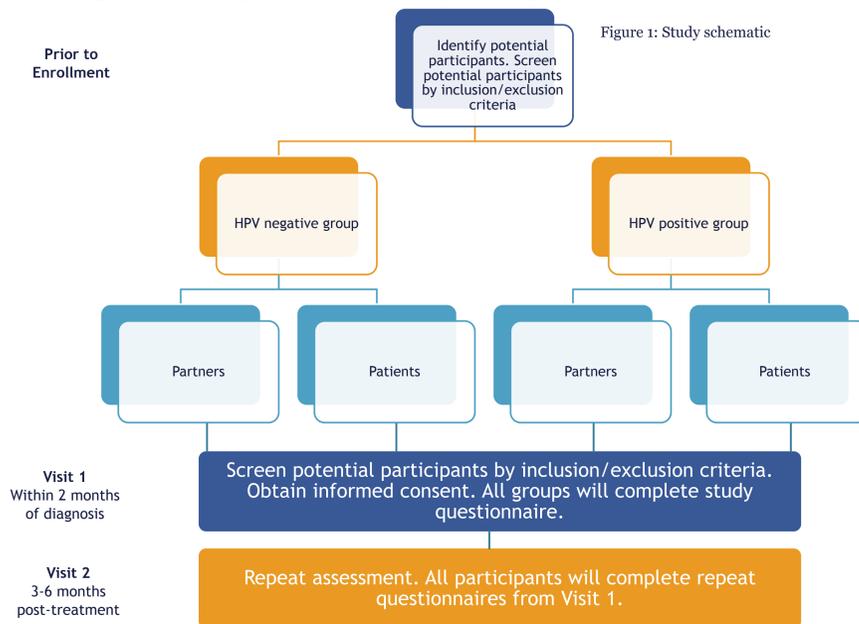
Human Papillomavirus (HPV) is responsible for a rising proportion of head and neck squamous cell carcinoma (HNSCC). Because these cancers are related to sexual behavior, a diagnosis of HPV-positive HNSCC can have social and psychological consequences for patients and their partners. Lack of public knowledge regarding HPV and its transmissibility has the potential to cause strain on relationships for individuals diagnosed with HPV-mediated HNSCC, in addition to confusion about whether patients need to alter their sexual practices following diagnosis.²⁻⁴ Understanding the effects of HNSCC diagnosis, whether HPV-positive or negative, on intimacy can provide a foundation for education and intervention.

Objectives:

1. To explore the agreement between patients' and partners' perceived intimacy level at different time points during HNSCC treatment
2. To compare any differences in perceived intimacy between HPV-positive and HPV-negative HNSCC patients at different time points during treatment

Methods

A single-site, prospective survey-based study was conducted using two cohorts of HNSCC patients, HPV-positive and HPV-negative, in partnered relationships.



1.) Since my partner's diagnosis of head and neck cancer, the level of security I feel in my relationship has:

Decreased a great deal (0) Decreased a little (1-3) Slight or no change (4-6) Increased a little (7-9) Increased a great deal (10)

a. I feel this change is related to my partner's diagnosis of human papillomavirus (HPV) related cancer. (circle 'N/A' if diagnosis is not related to HPV or if there was no change)

Not Much (1-3) A Little (4-6) A Great Deal (7-9) N/A (10)

b. I feel this change is related to the effects of cancer diagnosis or treatment.

Not Much (1-3) A Little (4-6) A Great Deal (7-9) N/A (10)

HPV-positive Questionnaire:

- Five (5) demographic questions
- Seven (7) Likert-scale questions with sub-responses (a) and (b)
- Five (5) Likert-scale questions with no sub-responses

HPV-negative Questionnaire:

- Five (5) demographic questions
- Seven (7) Likert-scale questions with sub-response (b)
- Three (3) Likert-scale questions with no sub-responses

Sub-response (a) asked if the change was related to the HPV diagnosis and sub-response (b) asked if the change was related to the cancer diagnosis.

Figure 2: Sample question from survey

The two additional questions given to the HPV-positive group relate to the effects of HPV diagnosis, specifically fear of contracting the virus or spreading the virus to or from partners.

Results of the core 12 questions (10 for HPV-negative) were translated into a perceived intimacy score. Patients' and partners' perceived relationship intimacy levels were categorized as follows: loss of intimacy (0-48), stable relationships (49-71) and improved intimacy (72-120).

Exploratory Endpoint:

To assess whether survey results warrant additional counseling or patient education. We will define and measure areas highlighted by the survey results that could be explored for possible future intervention.

Results

29 patients and 23 partners enrolled in this study and completed Visit 1 surveys to date.

17 patients and 10 partners have completed Visit 2 surveys to date.

Demographics between the HPV+ and HPV- groups were similar in terms of age, sex, race, and length of relationship.

Significant differences were seen in the distribution of smoking status, tumor location, and clinical stage between HPV-positive and negative patients (denoted by an asterisk in Table 1).

At Visit 1, there was no significant difference in mean perceived intimacy scores between patients and partners (80.7 vs 77.3; $p = 0.413$)

- When stratified by HPV status, there remained no significant difference in perceived intimacy scores between patients and partners in the HPV-positive group (80.2 vs 80.1; $p = 0.985$) or in the HPV-negative group (83.4 vs 70.0; $p = 0.116$)

At Visit 2, there was no significant difference in mean perceived intimacy scores between patients and partners (73.5 vs 71.6; $p = 0.758$)

- When stratified by HPV status, there remained no significant difference in perceived intimacy scores between patients and partners in the HPV-positive group (75.7 vs 75.5; $p = 0.985$) or in the HPV-negative group (70.2 vs 65.7; $p = 0.116$)

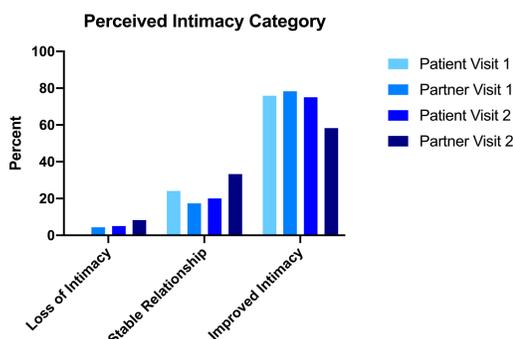


Figure 1. Percent of participants in each perceived intimacy category. Most participants described improved relationship intimacy at Visit 1 and Visit 2.

One patient-partner pair described loss of intimacy, with worsening over time. They attributed this primarily to the patient's diagnosis of HPV-related cancer.

Table 2. Fleiss' k Scores for Perceived Intimacy Categories

		Fleiss' k	P-value
Combined	Visit 1	0.005	.977
	Visit 2	0.667*	0.002
HPV-positive	Visit 1	-0.133	0.431
	Visit 2	0.619*	0.013
HPV-negative	Visit 1	0.333	0.273
	Visit 2	0.500	0.248

Table showing Fleiss' k scores, or level of agreement in perceived intimacy category (loss of intimacy, stable relationship, improved intimacy) over time. At Visit 1, there was no to slight agreement in perceived intimacy category between patients and partners in the combined cohort and the HPV-positive group. By Visit 2, both groups showed substantial agreement in perceived intimacy category between patients and partners (denoted by an asterisk). There was fair agreement between patients and partners in the HPV-negative group at Visit 1 and moderate agreement at Visit 2.

Within the HPV-positive group, 22.7% of patients and 23.5% of partners were unsure of what sexual practices they could perform ($p = 1.000$) at Visit 1.

- At Visit 2, 7.14% of patients and 25.0% of partners remained unsure ($p = 0.527$)
- Participants attributed this both to the effects of HPV diagnosis and cancer diagnosis.
- There were no significant differences in answers to individual survey questions between patients and partners in the combined cohort at Visit 1 and 2 or when stratified by HPV-status.
- Responses to individual survey questions did not significantly change from Visit 1 to Visit 2 in patients or partners.
- 9 (31.0%) patients underwent surgery alone, 18 (62.1%) surgery + neoadjuvant or adjuvant therapy, and 2 (6.9%) definitive radiation or chemotherapy
 - Treatment group did not correlate with any changes in perceived intimacy scores

Conclusion

- Perceived intimacy was similar among patients and partners in both the HPV-positive and negative groups and remained stable over time.
- Level of agreement in intimacy levels appeared to improve over time from Visit 1 to Visit 2, most pronounced in the HPV-positive group, which showed substantial agreement by Visit 2.
- Within the HPV-positive group, a higher proportion of partners remained unsure of the sexual practices they could perform at Visit 2, although this did not reach significance. This indicates a potential area that could benefit from future intervention.
- Further study with a larger sample size is necessary to determine additional factors that could influence patient-partner intimacy following a diagnosis of HNSCC as well as additional areas that could benefit from intervention.

References

1. Dodd, Rachael H., et al. "Psychosocial Impact of Human Papillomavirus-Related Head and Neck Cancer on Patients and Their Partners: A Qualitative Interview Study." *European Journal of Cancer Care*, 2019, doi:10.1111/ecc.12999.
2. Taberna, Miren, et al. "Significant Changes in Sexual Behavior after a Diagnosis of Human Papillomavirus-Positive and Human Papillomavirus-Negative Oral Cancer." *Cancer*, vol. 123, no. 7, 2017, pp. 1156-1165, doi:10.1002/cncr.30564.
3. Mc Caffery, Kirsten, et al. "Testing Positive for Human Papillomavirus in Routine Cervical Screening: Examination of Psychosocial Impact." *BJOG: An International Journal of Obstetrics and Gynaecology*, vol. 111, no. 12, 2004, pp. 1437-1443, doi:10.1111/j.1471-0528.2004.00279.x.