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### **Cover Page Footnote**

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## Informative material for patient empowerment in sensitive situations

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### Abstract

Women diagnosed with HPV face a hard-to-understand disease that may impact their psychological and physical health and may pose challenges communicating with healthcare providers in sensitive settings. We posit patient empowerment through targeted educational materials can improve sensitive communication and lead to better health outcomes. This study measured the impact of a patient-empowerment process used in a gynecology clinic for HPV patients to improve sensitive communication during medical-related meetings and on subsequent patient empowerment outcomes. The empowerment process was based on expert-vetted informative material made accessible in the physician's waiting room on tablet devices. Communication between physicians and patients was measured during medical visits via a direct observation, encoding process. Empowerment items were tested following medical visits. The results were compared to a control group that received non-medical, lifestyle material. 237 female, gynecology patients from a large, private clinic participated. Using expert-vetted, relevant material to enhance patient education in a clinical setting results in higher levels of patient empowerment. Physician interaction impacts patient empowerment as do various communication behaviors and this can lead to positive health outcomes.

### Keywords

Empowerment, healthcare, digital media, patient care, HPV, physician communication, expert-vetted material, information-seeking behavior

### Introduction

Women diagnosed with human papillomavirus (HPV) face a hard-to-understand disease that may impact their psychological and physical health and may pose challenges communicating with healthcare providers in sensitive settings.<sup>1,2</sup> Some researchers recommend educational materials to reinforce verbal information provided by clinicians.<sup>3</sup> However, others report potentially conflicting information can be irrelevant or too complex for many patients to understand.<sup>4</sup> Efforts to address health literacy problems reveal traditional health education efforts can fall short and leave patients confused.<sup>5</sup> As a result, most health providers agree that patient-physician communication improvement is essential and can enhance overall healthcare quality and safety.<sup>6,7</sup> We believe this is particularly true in sensitive settings such as the one used in this research. Efforts to transform healthcare in these ways are essential.<sup>8</sup> However, in-office consultation may not always be feasible, particularly in the age of COVID-19.<sup>9</sup>

In our current study, we posit that patient empowerment can improve sensitive communication and lead to better health outcomes.<sup>10,11</sup> Past research supports this perspective suggesting relevant patient education enhances health literacy which in turn empowers patients to apply information and positively influence their health.<sup>12</sup> Therefore, infusing patient contact points with expert-vetted educational material may result in positive health outcomes. This study focuses on a specific contact point: the patient waiting room used just prior to a medical encounter.<sup>13,14</sup> Our target population and unit of analysis are individual female gynecology HPV patients in sensitive healthcare situations. Providing relevant information easily accessible by the patient clarifies treatment options leading to informed choices.<sup>15</sup> Empowerment concepts provide theoretical foundations for the current research having previously been used as an intervention tool for clinicians treating women who have HPV, an area for sensitive communication. HPV empowerment studies to date start from the assumption that online health information-seeking behavior is a precursor to patient participation in their healthcare<sup>16</sup> which can lead to empowerment.<sup>17</sup>

Women experience high levels of anxiety and negative emotional responses at all stages of screening for cervical cancer<sup>18</sup>. Galaal et al.<sup>19</sup> suggest women who consider the information provided by the gynecologist as inadequate or untrustworthy have significantly higher anxiety levels. Qualitative research indicates practical and detailed information provided to women may reduce stress and anxiety.<sup>20</sup> Information regarding clinical procedures was found as particularly important.<sup>21</sup> However, this viewpoint is not universal.<sup>22</sup> Therefore, more research is required.

**Methods**

To explore empowerment through informational content, we utilized expert-vetted content and assessed its impact on sensitive patient-physician communication and empowerment outcomes. The independent variables were a variety of empowerment process items (Clarity, Value, Practicality, Novelty, Relevance to Health Statuses, Reliability, Accuracy, Adds to Physician Information, Similarity to Physician Information) as well as personal and environmental factors (e.g., control variables) such as education levels, meeting type, and others (Figure 1). Our dependent variables were empowerment outcomes which comprised 6 constructs: being better informed; feeling more confident in my relationship with my physician; improved acceptance of illness; feeling more confident about treatment; increased optimism and control over the future; enhanced self-esteem; and, enhanced social well-being.

**Sample and procedure**

The study included a total of 237 female, gynecology patients from a clinic located at the Assuta Medical Center,

Israel’s largest and leading private medical services center. The Declaration of Helsinki was used to guide this research and ensure the highest ethical standards were followed. Subjects were randomly divided between intervention (119) and control (118) groups based on the patient roster of appointments using a systematic sampling method.<sup>23</sup> All subjects were presented with an informed consent form which was carefully described. Only those signing the document in the presence of the physician were allowed to join the study. Data was collected 4 times a week. Table 1 provides demographic details related to the sample. Table 2 provides the demographics broken down by intervention and control groups.

The clinical physician team determined the educational content relevant to patients. The materials were embedded in a custom-developed application on a tablet device. Patients could choose the content needed for their situation. After a patient entered the knowledge content, she was asked to evaluate the information exchange from the following points of view: understandability, value, usability, currency, applicableness to the present situation, reliability, and correctness. We also asked if the information added value to prior information received from her care provider and if it was closely aligned. So, the study examined: Clarity, Value, Practicality, Novelty, Relevance to Health Statuses, Reliability, Accuracy, Adds to Physician Information, and Similarity to Physician Information. These items measure the value of knowledge and this, in turn, enhances empowerment.<sup>24</sup> We called these variables the empowerment process. Evaluation of patient interaction with the tablet content was conducted after they left the waiting room and only for the

**Figure 1. General Research Model**

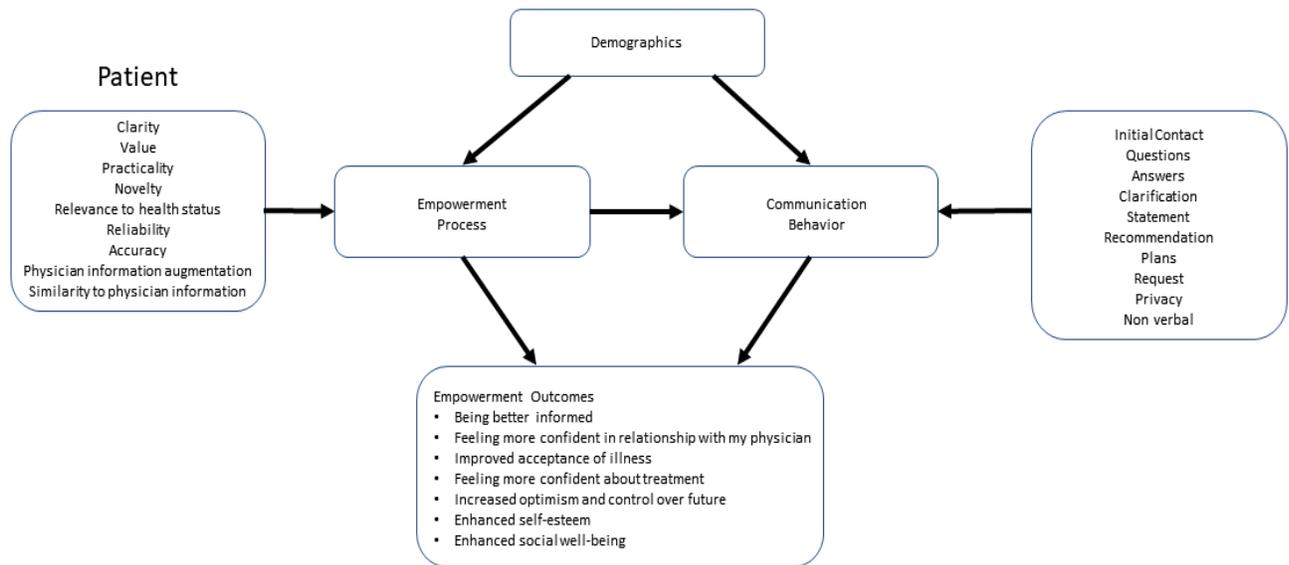


Table 1. Group Characteristics

<b>Intervention Group</b>			
Number	119		
Mean Age	38.1		
<b>Marital Status</b>		<b>Education</b>	
Single	37	High School	43
Married	62	Technical Studies	14
Divorced	19	Academic Degree	62
Widowed	1		
<b>Control Group</b>			
Number	118		
Mean Age	44.4		
<b>Marital Status</b>		<b>Education</b>	
Single	42	High School	31
Married	53	Technical Studies	8
Divorced	20	Academic Degree	79
Widowed	3		

Table 2. Demographics by Group

		<b>Intervention Group</b>	<b>Control Group</b>
<b>Number</b>		119	118
<b>Average Age</b>		38.1	44.4
<b>Marital Status</b>	<i>Single</i>	37	42
	<i>Married</i>	62	53
	<i>Divorced</i>	19	20
	<i>Widowed</i>	1	3
<b>Education</b>	<i>High School</i>	43	31
	<i>Technical Studies</i>	14	8
	<i>Academic Degree</i>	62	79
<b>Session Type</b>	<i>First</i>	43	49
	<i>Treatment</i>	14	8
	<i>Follow-up</i>	62	61
<b>Breakdown by Physician</b>	<i>1</i>	42	33
	<i>2</i>	26	32
	<i>3</i>	51	53

intervention group. Following the information review, patients entered meetings with physicians. Observers directly evaluated meeting communication from inside the room as it took place. Afterward, patients completed a survey focused on measuring overall empowerment outcomes.

### **Hypotheses**

The overall model determined if an empowerment process and communication variables impacted empowerment outcomes. We tested the model with the research hypothesis:

H1: The empowerment process and communication variables have a positive impact on the empowerment outcomes.

The empowerment process was based on research by Uden-Kraan et al.<sup>25</sup> which examined the influence of knowledge processes within online patient support groups. This research indicated patients felt empowered after passively reading relevant information posted on trustworthy websites and discussion boards.<sup>25–27</sup> Relevant items were adapted to measure the value of information exchange in the current study, considering our unique clinical setting. Respondents used a 5-point Likert scale ranging from ‘completely disagree’ to ‘completely agree’ related to the value of exchanged information evaluated prior to the medical encounter.

To measure communication reliability, we adapted items previously used in a study that examined knowledge

transfer in team work processes across different healthcare contexts.<sup>28</sup> This was relevant because our situation fitted well with Parush et al.'s<sup>28</sup> teamwork definition. The categories used in the Parush et al.<sup>28</sup> study also matched our interview process used to assess interaction.

Similarly, we included a preliminary interview of the physician and observed meeting interactions between patients and physicians during their encounters in the clinic. We collected behaviors during the interaction when these served a communicative function such as asking questions, providing answers, making announcements, and so forth. The interview provided a basic understanding of specific communication used by both patient and physician during interaction. We measured categories according to a cognitive ethnography approach used in past research.<sup>29</sup> Therefore, we tested if:

H2: Communication behavior impacts empowerment outcomes in the intervention group.

We also developed a research hypothesis to determine if significant differences existed between the control and intervention groups related to empowerment outcomes and communication-based on differences in the empowerment process each received:

H3: The intervention group will have higher empowerment outputs than the control group due to the empowerment process.

### **Intervention group**

Researchers provided only intervention group members with the colposcopy knowledge application on tablets in the clinic while they waited to meet with their physician.

The colposcopy mobile application was composed of 4 content elements: (1) Description of a colposcopy provided through text; (2) Description of what is done in the cervix clinic through text; (3) A video showing a colposcopy procedure in which a patient is seen but not identified (e.g., a real, internal colposcopy procedure); and, (4) A video with animated portions presenting a woman laying on a gynecology bed while a physician explains the procedures (the instruments used and the internal processes were shown via animation). This video showed how someone continued living in normal fashion while integrating the process received during consultation with her physician. We tracked application use. Of the 119 women in the intervention group, only 87 fully used the application. The other 32 were removed from the study.

### **Control group**

The control group also received videos on a tablet. However, these videos were not related to medical care. Instead, these covered topics such as world travel information, news, video games, humor, and lifestyle features.

### **Communication/behavior measurement reliability**

Two observers, stationed inside the meetings between patient and physician evaluated communication and behaviors over a month period. The observers recorded every utterance and non-verbal cue and marked it on a rating sheet to create a summation for each interaction. In addition, they wrote the sentences on which they based their coding for each subcategory. Each day, the observers discussed their interaction evaluations to create a common outcome. This helped ensure no content was omitted and all disagreements were settled while the sessions were fresh in their minds.

The effectiveness of the interaction was reflected by the degree to which patients and physicians engaged in a process of sharing information. Items measured included questions, answers, clarifications, announcements, advice plans, and requests. We also added a category, called non-verbal cues, to reflect the exchange of private information sharing and nonverbal communication such as head nods, eye contact and tone of voice. These characterized specific intimate situations and interaction sensitivity.

## **Results**

### **Reliability outcomes**

Due to manpower constraints, three raters worked in two teams to cover all interaction sessions. In all, we rated three different doctors seeing a variety of patients. After one month, we rated 87 interactions. Inter-rater reliability was assessed at the individual subcategory level using the Kappa statistic.<sup>30</sup> All subcategory agreements were significant except for privacy-patient which had a p-value of .157.

### **Empowerment item reliability**

As stated earlier, empowerment outcome items were adopted from Uden-Kraan et al.<sup>26</sup> and their study of an online support group. Reliability measures for empowerment outcomes were high with all measures being more than 0.9. See Table 3.

Other reliability measures were assessed with reasonable outcomes. Tables 4 and 5 provide the results.

### **Main effects**

Correlation analysis was conducted to ensure significant relationships between variables existed to justify moving into a regression analysis. Upon confirmation of many significant correlations, the overall intervention group model was tested with regression. The results indicated a significant relationship between the predictors (e.g., empowerment process and communication variables) and empowerment outcomes ( $R^2=.148$ ,  $F(2,87)=7.27$ ,  $p<.01$ ). We found the empowerment process significantly predicted empowerment outcomes ( $\beta=.523$ ,  $p<.01$ ), as did the communication variables ( $\beta=.283$ ,  $p<.05$ ). Therefore,

**Table 3. Reliability (Cronbach's Alpha) for Intervention and Control Groups**

	Reliability for the intervention group	Reliability for the control group
Being better informed	0.92	0.98
Feeling more confident in the relationship with my physician	0.95	0.99
Improved acceptance of the illness	0.94	0.98
Feeling more confident about the treatment	0.96	0.98
Increased optimism and control over the future	0.96	0.99
Enhanced self-esteem	0.97	0.97
Enhanced social well-being	0.93	0.97

**Table 4. Independent Variable Reliabilities**

Variables		Interrater reliability	KMO Test	Bartlett's Test
Colposcopy_pamphlet	1	0.724	0.662	369.49
Clinic_pamphlet	2	0.869	0.777	741.9
Colposcopy_movie_1	3	0.971	0.901	1544.4
Colposcopy_movie_2	4	0.983	0.919	2007.32
Conization_pamphlet	5	0.784	0.48	708.04
Conization_movie	6	0.937	0.814	1034.25
Condyloma_pamphlet	7	0.844	0.617	904.57
Condyloma_animation_movie	8	0.978	0.561	2631.19
Hpv_movie_flowng_text	9	0.761	0.759	407.75
Hpv_movie_moshonov	10	0.745	0.835	692.04
Overall		0.724	0.662	369.49

**Table 5. Dependent Variable Reliabilities**

		Interrater reliability	KMO Test	Bartlett's Test
Communication behavior				
Being better informed	1	0.936	0.878	580.86
Feeling more confident in relationship with my physician	2	0.95	0.931	962.43
Improved acceptance of illness	3	0.937	0.863	543.3
Feeling more confident about treatment	4	0.962	0.915	690.79
Increased optimism and control over future Enhanced self-esteem	5	0.957	0.88	812.18
Enhanced self-esteem	6	0.96	0.748	408.7
Enhanced social well-being	7	0.924	0.725	447.01
Overall		0.984	0.931	5696.86

H1 was supported, and we continued analysis to obtain more detailed results.

#### ***Communication behavior on empowerment outcomes***

We examined the influence of communication behavior on empowerment outcomes within the intervention group, based on differences in the empowerment process. We ran a regression using each empowerment outcome as a

dependent variable for data coming from the intervention group. Table 6 summarizes the results. As shown, several items were significant. We found text knowledge (e.g., Item 1 or Item 2 in the empowerment process), shows a positive effect on the all-empowerment outcomes. And age group in different ranges shows a negative relationship with empowerment outcomes with some items being significant. For instance, patients with education 1 and

**Table 6. Empowerment Outcome Regression Results**

	Dependent variable						
	Being better informed	Feeling more confident in the relationship with my physician	Improved acceptance of the illness	Feeling more confident about the treatment	Increased optimism and control over the future	Enhanced self-esteem	Enhanced social well-being
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Knowledge	0.61** (0.24)	0.96*** (0.25)	0.79*** (0.28)	0.74** (0.28)	0.87*** (0.26)	0.73*** (0.27)	0.63** (0.26)
Meeting_type_1	-1.20 (1.10)	-2.00* (1.10)	-1.80 (1.20)	-2.00 (1.20)	-1.20 (1.10)	-0.61 (1.20)	-0.34 (1.10)
Family_status_1	-0.76 (1.20)	-2.40* (1.30)	-2.00 (1.40)	-1.80 (1.40)	-1.50 (1.30)	-1.40 (1.40)	-0.97 (1.30)
Family_status_2	-0.97 (0.64)	-1.70** (0.66)	-1.40* (0.74)	-1.10 (0.74)	-1.20* (0.69)	-0.72 (0.71)	-0.89 (0.69)
Age_group 18-29	-3.20* (1.70)	-4.50** (1.80)	-3.10 (2.00)	-2.00 (2.00)	-2.50 (1.80)	-0.66 (1.90)	-1.10 (1.90)
Age_group 30-39	-1.90 (1.20)	-2.00 (1.20)	-2.30* (1.40)	-1.80 (1.40)	-1.40 (1.30)	-0.78 (1.30)	-0.93 (1.30)
Age_group 40-49	-1.30* (0.69)	-0.97 (0.71)	-1.20 (0.79)	-1.40* (0.80)	-0.93 (0.74)	-0.79 (0.76)	-0.40 (0.74)
Physician 4	0.07 (0.33)	-0.02 (0.34)	-0.41 (0.38)	0.08 (0.39)	-0.60* (0.36)	-0.47 (0.37)	-0.37 (0.36)
Education 1:age_group_30-39	-0.66 (2.10)	-1.70 (2.20)	0.64 (2.40)	-1.10 (2.40)	3.00 (2.20)	4.20* (2.30)	2.80 (2.30)
Meeting_type_1: age_group_18-29	2.00 (1.60)	3.10* (1.70)	2.10 (1.80)	1.70 (1.90)	0.86 (1.70)	-0.59 (1.80)	-0.18 (1.70)
Meeting_type_1: age_group_40-49	2.00 (1.80)	3.40* (1.80)	2.60 (2.00)	2.10 (2.00)	0.68 (1.90)	-0.07 (1.90)	-0.35 (1.90)
Family_status_1: age_group_18-29	2.00 (1.80)	4.20** (1.90)	2.40 (2.10)	1.30 (2.10)	1.60 (2.00)	0.10 (2.00)	0.04 (2.00)
Family_status2: age_group_18-29	2.00 (1.60)	3.50** (1.70)	2.10 (1.90)	1.40 (1.90)	0.92 (1.80)	-0.19 (1.80)	0.46 (1.80)
Observations	87	87	87	87	87	87	87
R <sup>2</sup>	0.38	0.43	0.36	0.37	0.47	0.44	0.37
Adjusted R <sup>2</sup>	0.210	0.190	0.230	0.200	0.290	0.290	0.210

*Notes: Items in Parentheses are standard error*  
 \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

ages between 30-39 show a positive relationship with “Enhanced self-esteem”. Therefore, H2 was accepted.

**Intervention versus control groups**

Control group empowerment outcomes were directly compared with those of the intervention group considering differences in the empowerment process. Significant differences were found (F(1,72)=760.7, p<0.001). Specifically, the empowerment outcomes in the intervention group were significantly higher than those in the control group (Table 7). This indicated the effectiveness of the empowerment items. Therefore, H3 was supported.

**ANOVA Analysis**

Further investigation was carried out with a univariate analysis of variance (one-way ANOVA) across key demographic characteristics for the IVs and DV. The ANOVA largely supported the regression findings. Relationships existed between confidence in treatment and education (p=.017), being better information and meeting type (p=.05) and being better informed and education (p=.048).

**Discussion**

The current study resulted in interesting and useful information regarding patient empowerment. First, the value of the information was perceived differently in accordance with the type of medical visit – the highest value was noted among patients who came for treatment, the next level among patients who came for a follow-up visit and the lowest value was found among patients who came for their first consultation.

Second, the patient empowerment process has an impact on empowerment results as follows: The “being better informed” category showed that it was clearly, positively influenced by the process based upon texts that explain the colposcopy procedure. It is interesting to note that the process itself is significant and impacted the results even if it did not affect communication during the medical visit. The study shows the importance of structured and guided empowerment via the medical staff who make relevant medical material accessible to patients.

In the category – “Feeling more confident in the relationship with my physician” – the empowerment process was influenced by text that explained the

**Table 7. Empowerment Outcomes Comparison Intervention and Control Group**

Items	Intervention group	Control Group	Cohen g between the intervention group and the control group
Being better informed	3.89(1.04)	2.3(1.51)	1.4
Feeling more confident in the relationship with my physician	3.59(1.07)	2.25(1.43)	1.2
Improved acceptance of the illness	3.36(1.12)	2.17(1.36)	1.1
Feeling more confident about the treatment	3.53(1.14)	2.17(1.43)	1.1
Increased optimism and control over the future	3.48(1.11)	2.21(1.38)	1
Enhanced self-esteem	3.15(1.16)	2.2(1.39)	0.86
Enhanced social well-being	3.13(1.06)	2.18(1.28)	0.87
<i>Note: Items in Parentheses are standard error</i>			

procedure as well as by text that explained about the clinic, thereby creating a feeling of confidence towards to the doctor. Women visiting this type of medical clinic are very apprehensive; this current study presents an innovative solution to reduce and treat these feelings of apprehension among patients via the patient empowerment process when in sensitive settings.

In the categories “Improved acceptance of the illness” and “Feeling more confident about the treatment”, the text-based empowerment process provided relatively low levels of influence upon patients. However, in the category – “Increased optimism and control over the future” – the text-based empowerment procedure that described the treatment provided a clearly positive influence on the process. In the category – “Enhanced self-esteem” – the empowerment results were influenced by the type of medical visit and were more significant in the preliminary visit and less significant in the follow-up visit.

#### **Limitations**

This study had several limitations. Among these were sample size and location. A single clinic was used for the study with a group of three physicians. This could mean generalizability issues may exist. We believe the study could benefit from replication in alternate settings and with more patients.

#### **Implications For Practice**

Informative material meticulously chosen by a team of expert physicians influences patient empowerment by helping a patient better understand their situation. This is particularly true in sensitive settings. It also heightens the feeling of trust in the doctor-patient relationship and increases patients’ level of optimism and sense of control in the future. Providing informative material at a critical point in a patients’ experience, particularly when dealing with sensitive situations, enhances that patient’s empowerment and equips her to work more closely and

confidently with her healthcare providers. Therefore, we recommend providing physician-vetted material in waiting rooms to achieve this outcome.

#### **Conclusions**

This study shows a significant difference between the empowerment process of a patient in the intervention group which was provided with informative medical material and the control group in which patients were provided with general material unrelated to their medical situation. The study did not show any difference in level of sensitive communication in the intervention groups during patients’ visit.

#### **Ethics Statement**

Informed consent was obtained for all information acquired with this research. All privacy rights of the human subjects were carefully observed. All elements of the Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects were followed.

#### **References**

1. Hernandez R, Petronio S. “Starting that Conversation Is Even Harder than Having It”: Female Patients’ Perceptions of Physicians’ Communication Competence in Communication about Sexual Behavior. *Journal of Health Communication*. 2020;25(11):917-924.
2. Unger Z, Maitra A, Kohn J, Devaskar S, Stern L, Patel A. Knowledge of HPV and HPV vaccine among women ages 19 to 26. *Women’s Health Issues*. 2015;25(5):458-462.
3. van de Belt TH, Faber MJ, Knijnenburg JML, van Duijnhoven NTL, Nelen WLDM, Kremer JAM. Wikis to facilitate patient participation in developing information leaflets: first experiences. *Informatics for Health and Social Care*. 2014;39(2):124-139.

4. Banna S, Hasan H, Dawson P. Understanding the diversity of user requirements for interactive online health services. *International Journal of Healthcare Technology and Management*. 2016;15(3):253-271.
5. Chen X, Hay JL, Waters EA, et al. Health literacy and use and trust in health information. *Journal of health communication*. 2018;23(8):724-734.
6. Timmermans S. The engaged patient: The relevance of patient--physician communication for twenty-first-century health. *Journal of Health and Social Behavior*. 2020;61(3):259-273.
7. Nahmias A, Tamir O, Raz I, Wainstein J. In anticipation of Patient Participation. *Israel Medical Association Journal*. 2009;11:751-752.
8. Balfour ME, Tanner K, Jurica PJ, Llewellyn D, Williamson RG, Carson CA. Using Lean to rapidly and sustainably transform a behavioral health crisis program: impact on throughput and safety. *The Joint Commission Journal on Quality and Patient Safety*. 2017;43(6):275-283.
9. Ju I, Ohs J, Park T, Hinsley A. Interpersonal Communication Influence on Health-Protective Behaviors amid the COVID-19 Crisis. *Health Communication*. 2021;0(0):1-12. doi:10.1080/10410236.2021.1956038
10. Agner J, Braun KL. Patient empowerment: A critique of individualism and systematic review of patient perspectives. *Patient education and counseling*. 2018;101(12):2054-2061.
11. Coulter A. Patient-centered decision making: empowering women to make informed choices. *Women's Health Issues*. 2001;11(4):325-330.
12. Levin-Zamir D, Bertschi I. Media health literacy, eHealth literacy, and the role of the social environment in context. *International journal of environmental research and public health*. 2018;15(8):1643.
13. Wolf J, V N, D M, SL L. Defining patient experience. *Patient experience journal*. 2014;1(1):7-19.
14. Bravo P, Edwards A, Barr PJ, Scholl I, Elwyn G, McAllister M. Conceptualising patient empowerment: a mixed methods study. *BMC health services research*. 2015;15(252).
15. Koekenbier K, Leino-Kilpi H, Cabrera E, et al. Empowering knowledge and its connection to health-related quality of life: a cross-cultural study: A concise and informative title: Empowering knowledge and its connection to health-related quality of life. *Applied Nursing Research*. 2016;29:211-216.
16. Wald HS, Dube CE, Anthony DC. Untangling the Web--The impact of Internet use on healthcare and the physician--patient relationship. *Patient education and counseling*. 2007;68(3):218-224.
17. Ferguson T. Health online and the empowered medical consumer. *The Joint Commission journal on quality improvement*. 1997;23(5):251-257.
18. Bosgraaf RP, de Jager WCC, Servaes P, Prins JB, Massuger LFAG, Bekkers RLM. Qualitative insights into the psychological stress before and during colposcopy: a focus group study. *Journal of Psychosomatic Obstetrics & Gynecology*. 2013;34(4):150-156.
19. Galaal K, Bryant A, Deane KH, Al-Khaduri M, Lopes AD. Interventions for reducing anxiety in women undergoing colposcopy. *Cochrane Database of Systematic Reviews*. 2006;12.
20. Liu S, Yang JZ, Chu H. Now or future? Analyzing the effects of message frame and format in motivating Chinese females to get HPV vaccines for their children. *Patient education and counseling*. 2019;102(1):61-67.
21. O'Connor M, Waller J, Gallagher P, et al. Exploring women's sensory experiences of undergoing colposcopy and related procedures: implications for preparatory sensory information provision. *Journal of Psychosomatic Obstetrics & Gynecology*. 2016;37(4):137-146.
22. De Bie RP, Massuger L, Lenselink CH, Derksen YHM, Prins JB, Bekkers RLM. The role of individually targeted information to reduce anxiety before colposcopy: a randomised controlled trial. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2011;118(8):945-950.
23. Bellhouse DR. Systematic sampling methods. *Encyclopedia of Biostatistics*. 2005;8. doi:10.1002/0470011815.b2a16077
24. Camerini L, Schulz PJ, Nakamoto K. Differential effects of health knowledge and health empowerment over patients' self-management and health outcomes: a cross-sectional evaluation. *Patient education and counseling*. 2012;89(2):337-344.
25. van Uden-Kraan CF, Drossaert CH, Taal E, Shaw BR, Seydel ER, van de Laar MA. Empowering Processes and Outcomes of Participation in Online Support Groups for Patients with Breast Cancer, Arthritis, Or Fibromyalgia. *Qualitative Health Research*. 2008;18(3):405-417.
26. Van Uden-Kraan CF, Drossaert CHC, Taal E, Seydel ER, van de Laar MAFJ. Participation in online patient support groups endorses patients' empowerment. *Patient education and counseling*. 2009;74(1):61-69.
27. Oh HJ, Lee B. The effect of computer-mediated social support in online communities on patient empowerment and doctor-patient communication. *Health communication*. 2012;27(1):30-41.
28. Parush A, Kramer C, Foster-Hunt T, McMullan A, Momtahan K. Exploring similarities and differences in teamwork across diverse healthcare contexts using communication analysis. *Cognition, technology & work*. 2014;16(1):47-57.
29. Hammersley M, Atkinson P. *Ethnography: Principles in Practice*. 2nd ed. Routledge; 1995.
30. McHugh ML. Interrater reliability: the kappa statistic. *Biochemia medica*. 2012;22(3):276-282.