

LCCC 1713: Testing The Efficacy of A Couple-focused, Tailored mHealth Intervention for Symptom Self-Management Among Men with Prostate Cancer and Their Partners

Principal Investigator

Lixin Song, PhD
5102 Carrington Hall
919-966-3612
Email: lsong@unc.edu

Principal Co-Investigator

N/A

Co-Investigator(s)

Ronald Chen, MD, MPH
Matt Nielsen, MD, MPH
Tom Keyserling, MD, MPH
Mary Palmer, PhD
Chris Rini, PhD
Xianming Tan, PhD

Biostatistician(s)

Xianming Tan, PhD

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Signature Page

The signature below constitutes the approval of this protocol and the attachments, and provides the necessary assurances that this trial will be conducted according to all stipulations of the protocol, including all statements regarding confidentiality, and according to local legal and regulatory requirements and applicable U.S. federal regulations and ICH guidelines.

Principal Investigator (PI) Name: _____ Lixin Song _____

PI Signature: _____

Date: _____

Version Date: May 28,2020

TABLE OF CONTENTS

1.0 BACKGROUND AND RATIONALE.....	3
1.1 Study Synopsis.....	3
1.2 Background	3
1.3 Purpose and Rationale	3
2.0 STUDY OBJECTIVES/AIMS AND ENDPOINTS	4
2.1 Primary Objective	4
2.2 Secondary Objectives.....	4
3.0 PATIENT ELIGIBILITY.....	4
3.1 Inclusion Criteria.....	4
3.2 Exclusion Criteria.....	5
4.0 STUDY PLAN.....	5
4.1 Schema	5
4.2 Duration of Study.....	5
4.3 Study Details	6
4.4 Expected Risks.....	8
4.5 Removal of Patients from Protocol	8
5.0 TIME AND EVENTS TABLE	8
5.1 Time and Events Table.....	8
6.0 UNANTICIPATED PROBLEMS	9
6.1 Definition.....	9
6.2 Reporting	9
7.0 STATISTICAL CONSIDERATIONS.....	10
7.1 Study Design	10

7.2	Sample Size and Accrual	10
7.3	Data Analysis Plans.....	10
7.4	Data Management/Audit.....	11
8.0	STUDY MANAGEMENT	14
8.1	Institutional Review Board (IRB) Approval and Consent	14
8.2	Required Documentation.....	14
8.3	Registration Procedures	14
8.4	Adherence to the Protocol	15
8.5	Amendments to the Protocol	16
8.6	Record Retention.....	16
8.7	Obligations of Investigators	16
9.0	REFERENCES	16
10.0	APPENDICES	33

1.0 BACKGROUND AND RATIONALE

1.1 Study Synopsis

In this study, we propose to test the efficacy of a couple-focused, web-based tailored prostate cancer symptom management program (PERC) in a randomized clinical trial. We will use a two-group (**PERC versus NCI website**) randomized controlled design and collect data at baseline (T1) and 4 (T2), 8 (T3), and 12 months (T4) among 800 patients (400 patient – partner dyads) completing initial treatment for localized prostate cancer and their intimate partners.

1.2 Background

Over 180,000 new cases of prostate cancer will be diagnosed in 2016,¹ and 92% will have localized or regional disease.² Despite a favorable five-year relative survival at 100%,³ men with localized prostate cancer experience serious prolonged side effects after treatment with curative intent,⁴ including urinary, sexual, bowel, and hormonal symptoms; emotional distress; and general symptoms, e.g., pain, fatigue, and sleep disturbance; and change in body image, all of which impair their quality of life (QOL).⁴ For men in an intimate relationship, these symptoms disrupt couples' intimacy and relationships;⁵⁻⁸ the symptoms' adverse effects on their intimate partners' QOL may be greater than the effects on patients' own QOL.^{9,10}

1.3 Purpose and Rationale

Despite these challenges the patients and their partners face, as well as national guidelines on cancer survivorship from the Institute of Medicine (IOM)¹¹ and the American Cancer Society (ACS),⁴ management of negative treatment effects remains the most unaddressed supportive care need for cancer patients and their families.¹²⁻¹⁴ Available in-person interventions are expensive to deliver and inconvenient for patients with prostate cancer and their intimate partners to attend together. Existing web-based programs often are not couple-focused, lack theory guidance, are not tailored to patient and partner needs, and are tested in studies with major methodological flaws. (Note: "partner caregivers/intimate partners" are replaced by the term "partners" sometimes in this proposal due to space limitation).

To address the unmet care needs for survivors and their partners, Dr. Song (PI) led an interdisciplinary team to develop and test the usability and feasibility of a tailored, couple-focused mHealth intervention called **Prostate Cancer Education & Resources for Couples (PERC)**. Guided by an adapted Stress and Coping theoretical framework, PERC was developed with contribution of stakeholders (patients, partners, and oncologic care providers),¹⁵ and findings from efficacious interventions with cancer patients and partners^{16,17} and empirical evidence.^{4,16-19} PERC aims to improve QOL for both patients and partners by enhancing positive appraisals of illness and boosting self-efficacy, social support from multiple sources, and healthy behaviors for symptom management. PERC uses mHealth technologies to dramatically increase couples' accessibility to post-treatment supportive care whenever and wherever they feel comfortable accessing it.¹⁵ The three main components of PERC are: (1) online educational modules to provide information and skills training, and facilitate dyadic support; (2) a moderated online Forum to facilitate professional and peer support; and (3) a Resource Toolbox to provide additional local and national resources, and easy access to useful information and tools to improve symptom management.

We tested and further refined PERC in two pilot studies. Patients and their partners were enthusiastic about and satisfied with the PERC intervention. They found the website easy to use, and it provided quality information that improved their symptom management and QOL.¹⁵ Based on our preliminary results, we believe that the refined PERC mHealth intervention is ready for efficacy testing in a randomized clinical trial.

2.0 STUDY OBJECTIVES/AIMS AND ENDPOINTS

In this randomized controlled trial, we will examine the efficacy of a couple-focused, web-based tailored prostate cancer symptom management program (PERC). We will use a two-group (**PERC versus NCI website**) randomized controlled design and collect data at baseline (T1) and 4 (T2), 8 (T3), and 12 months (T4) among 800 patients (400 patient - partner dyads) completing initial treatment for localized prostate cancer and their intimate partners.

2.1 **Primary Objective:** Assess the efficacy of PERC for improving QOL (total score and subscale scores of the physical, social, mental, and functional domains) among patients and their intimate partners.

H 1: Patients and their intimate partners randomized to PERC will report a larger increase in QOL scores (as assessed by the Functional Assessment of Cancer Treatment, FACT-G) than those randomized to the control group (usual care plus the National Cancer Institute prostate cancer website, the NCI website) at 4, 8, and 12 months post-baseline

2.1.1 Our primary outcome is the total QOL score, and each of the QOL subdomains are secondary outcomes.

2.2 **Secondary Objectives:** Test the effects of PERC on symptom appraisals and coping resources.

H 2: Patients and their intimate partners randomized to PERC will report greater improvement in secondary outcomes, positive appraisals of illness and coping resources, i.e., self-efficacy in symptom management, greater social support, and use of more healthy behaviors, at follow-ups than those randomized to the control group.

2.3 **Exploratory Objective:** Explore whether patients' race/ethnicity, education, type of cancer treatment, and couples' relationship quality at baseline moderate the effects of PERC on patient and partner QOL at follow-ups.

3.0 PATIENT ELIGIBILITY

3.1 **Inclusion Criteria**

The eligible patients must

- (1) be between 40 and 75 years old.
- (2) be within 4 months after completing initial treatment for localized prostate cancer as confirmed by patient and biopsy pathology report) with curative intent, i.e., surgery or radiotherapy +/- hormonal treatment;
- (3) have no previous cancer history within the past 2 years and not currently in treatment for cancer, or have a concurrent cancer (excluding non-melanomatous skin cancer);

- (4) experience prostate cancer-specific and/or general symptoms;
- (5) have a partner who is willing to participate.

The eligible partners must

- (1) be 18 years or older
- (2) be identified as the partner by the patient
- (3) not have been diagnosed with cancer or receiving treatment for cancer within the past 12 months (non-melanomatous skin cancer diagnosis/treatment is diagnosis/treatment is acceptable) so that couples can focus their efforts on managing prostate cancer.

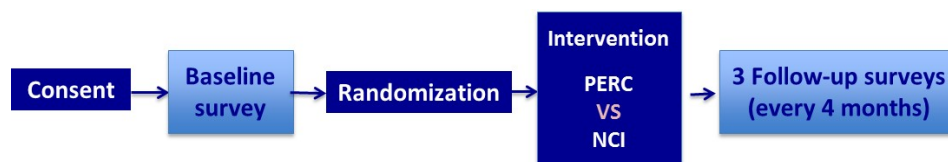
3.2 Exclusion Criteria

Patients and their partners will be excluded from the study if they:

- Do not read and speak English (evidenced by their understanding and responses to screening questions and self-reported ability to read English);
- Have cognitive impairment (assessed by the Short Portable Mental Status Questionnaire).

4.0 STUDY PLAN

4.1 Schema



4.2 Duration of Study

In this 5-year RCT, participants randomly assigned to the PERC group (the experimental group) will have access to the mHealth intervention titled Prostate Cancer Resources for Couples (PERC). The PERC users will have the chance to “meet” with a nurse educator via telephone and/or zoom video conferencing every 3-5 weeks for approximately 16-20 weeks. These will be scheduled via phone calls, emails or secure text messages (see section 4.3 below) to occur at these approximate time points: 1 week after completing the Baseline Survey (T1), and then three more at 3-5 week intervals for a total duration of 16 weeks. These intervals are flexible so that the patient/partner schedules can be accommodated and allow all 4 meetings to occur prior to the T2 survey. At the first intervention the Health Educator will describe how best to use the website and assist the couple to explore its features and different modules to manage post treatment symptoms whether emotional or physical. Participants will be encouraged to contact the Health Educator should they have questions.

Participants will also be given an option to utilize a tablet provided by the research team. If the participant does not have internet access, a Verizon jet pack (hot spot), along with user guide, will also be provided to the participant so that the surveys can be accessed. The tablet and jet pack will be returned when study participation is complete.

Content for subsequent interventions will be based on symptoms either member of the dyad is experiencing, making use of the PERC website for assistance in symptom

management. Dyads in the experimental group will have unlimited access to the PERC website after the final planned intervention.

Participants in the control group will have unlimited access to the NCI prostate cancer website. The Health Educator will have one phone meeting with them and their partners and answer any questions they have on accessing and navigating the NCI website. The control group will then receive emails and text messages approximately every 3-5 weeks until sixteen weeks to remind them to access the NCI website. As above, these intervals are flexible to allow for 3 reminders to be sent prior to the T2 Survey.

All participants will complete 3 follow-up surveys at around 4 (T2), 8 (T3), and 12 (T4) months post Baseline survey (T1)

4.3 Study Details

We plan to recruit 400 patient-partner dyads(800 participants) with diverse backgrounds through the NC Central Cancer Registry rapid case ascertainment (NC CCR RCA). The RCA uses an accelerated process to capture new cases within a week of diagnosis. After receiving a report of localized prostate cancer patients from RCA, we will contact patients' physicians by letter, giving them three weeks to request that a patient not be approached for study inclusion. In one of our studies that RCA facilitated, physicians opted out 81 out of 3400 patients (2.4%) due to patients' severe mental and physical illnesses or insufficient English proficiency.¹⁰⁸

Study participation data will be provided back to the NC Central Cancer Registry rapid case ascertainment (NC CCR RCA) every six months.

After the 3 week window, we will mail study introduction, a brochure, an opt out letter and informed consent information to potential participants. Then we will call within two weeks to assess interest in participating, answer questions, and screen for eligibility. We will use the same procedure to screen partners' eligibility after eligible patients give permission for us to contact their partner. We will obtain informed consent from eligible patients and partners *via* telephone.

After consented patients and partners independently complete the baseline survey via telephone, dyads will be randomized to PERC or the control group using a 1:1 ratio. v will generate allocation sequences by computerized randomization with randomly permuted blocks of random sizes. The Co-I statistician (Dr. Xianming Tan) will generate allocation sequences by computerized randomization with randomly permuted blocks of random sizes. *Randomization will be Randomization will be stratified by type of treatment*, surgery or radiation with or without hormonal therapy. Randomization will be centrally allocated using REDCap to ensure the security of randomization lists from all study personnel. After randomization, dyads will be informed of group assignment via email, mailer and/or telephone (the communication

methods participants prefer) and study activities and invited to start either the PERC or NCI program.

Research staff (see **Data Management** for details) will be blinded to the randomization and collect all data using telephone survey at baseline (upon enrollment) and at 4, 8, and 12 months post-T1. Telephone surveys (recorded) will be scripted with simultaneous online data entry into REDCap database system, a secure database for data entry and management. It should be noted that password-protected REDCap will be maintained in a secure network environment and comply with UNC security regulations. Only designated research staff and investigators can access the REDCap database.

Participants will receive gift cards in the following amounts at the following timepoints for study activities: \$20 at the completion of the T1 survey; \$30 at the completion of the T2 survey; \$30 at the completion of the T3 survey; \$50 at the completion of the T4 survey. They will also receive a retention gift with an approximate value of \$20 at around 6 months (between T2 and T3) and 10 months (between T3 and T4) after the T1 survey.

The research team will use the new Bank of America gift card system, which allows the study to acquire a gift card for each participant and then load and reload it with varying amounts for the baseline and 3 follow-up surveys. This is a UNC approved system, and no participant identifying data will be shared with any entity outside of study staff. At the discretion of the P.I. and the research staff, we may choose instead to send Amazon or WalMart gift cards, which would be purchased individually by the study. Gift cards will be sent following the completion of each study survey (T1, T2, T3 and T4); retention gifts will be sent at the appropriate time points. The Project Manager will oversee the acquisition and delivery of all gift cards.

We will use a secure online texting service to contact participants in combination with our landline telephone in our research office. We will send generic text message reminders for forthcoming surveys, giftcards, website features and use reminders, and health educator meetings. All Text Magic SMS messages will not contain any PHI and will be sent over password protected UNC Desktop computers that are located in a research office space at UNC School of Nursing that is designated to the project team.

1. Reminder: PERC Survey scheduled with <<STAFF NAME>> on <<DATE>> at <<TIME>>.
2. Thank you for participating in the PERC Study at UNC. Here is the link to your gift card! Contact us at unc_perc@unc.edu or 1-888-776-0037 if you have any problems claiming your card.
3. Reminder: Claim your gift card, it expires in 30 days
4. Reminder: Send back your gift card receipt to us soon please! Let us know if you have had any problems using your card.
5. Reminder: Log in to the website using your login information at <https://perc.unc.edu/>. Contact the PERC team for help logging in.
6. Reminder: Meet with the Health Educator Signup using the following [link](#) or call us directly to schedule your meeting!
7. Reminder Health Educator meeting scheduled for <<DATE>> at <<TIME>>.
8. Reminder: PERC webinar on <<Day>> at <<Time>>. Use this [link](#) to join.

9. Webinar posted to <<BLANK>> Section of the website! Check it out!
10. Check out the new Discussion Board post here! <https://perc.unc.edu/topics/all>
11. Time to schedule your survey! Let us know what times you are available.

4.4 Expected Risks

The risks of this study are minimal when compared to the knowledge and skills gained for the participants. The proposed study represents a potential benefit to participants for their post-treatment survivorship care. The PERC program has been designed to enhance post-treatment survivorship care by providing patients and partners a tool and specific resources to assess their needs and tailor the care program to their needs.

4.5 Removal of Patients from Protocol

Patients and their partners will become ineligible for further participation in this study if she or he is diagnosed with any type of cancer (eg breast, bowel etc) with the exception of non- melanomatous skin cancer or develops a condition that prevents them from fully participating in study activities such as scheduling and completing surveys, or phone meetings with the Nurse Educator. Participants will also be removed if they decide to withdraw from the study voluntarily.

5.0 TIME AND EVENTS TABLE

The baseline survey will take place after the participant's consent. The post-PERC survey will be about 16 weeks post baseline depending on the participant's schedule.

5.1 Time and Events Table

	Baseline (T1)	PERC Intervention	4, 8, and 12 months post- baseline (T2, T3, and T4)
	PERC & Control		PERC & Control
Screening	X	Phone and/or Zoom contact, with Questionnaires at time points	
Informed Consent	X		
Randomization	X		
Quality of Life: Functional Assessment of Cancer Treatment (FACT-G): ^{176, 17*}	X		X
Personal factors: Demographics (age, race/ethnicity, income, and education)	X		
Charlson Comorbidity Index_ Brief ^{177,178^}	X		X
PROMIS measures of pain, ¹⁷⁹ fatigue, ¹⁸⁰ sleep disturbance ^{181,182}	X		X
PROMIS Cancer Anxiety and Depression measures ^{182,185}	X		X

Couple factors: Relationship quality: Dyadic Adjustment Scale—Brief ^{186-188*}	X		X
Holmes and Rahe Scale	X		X
Cancer-related factors: Type of treatment [#]	X		X
Prostate cancer symptoms: Prostate cancer Index Composite (EPIC) ^{9,189*#}	X		x
Cancer care Financial Toxicity: COST-FACIT	x		x
Appraisal of illness: Appraisal of Illness scales ^{190,191*}	X		X
Coping Resources: Lewis Cancer Self-Efficacy Scale ¹⁹²	X		X
PROMIS Informational, Emotional, instrumental ¹⁹³⁻¹⁹⁵ and social Support ¹⁹⁶	X		X
Adapted Med Diet Screening and physical activity ^{201,202*}	X		X
Measure of Adult Sedentary Time (MOST)	X		X
eHealth Literacy Scale (eHEALS)	X		X
Modified RESIDE Physical Activity Screener	X		X
Perceived Ease of Use and Program Satisfaction ^{203,204*}			
Physical activity logs (health diary)	X		X
PERC web activity (automatic tracking)			X

6.0 UNANTICIPATED PROBLEMS

6.1 Definition

As defined by UNC's IRB, unanticipated problems involving risks to study subjects or others (UPIRSO) refers to any incident, experience, or outcome that:

- Is unexpected (in terms of nature, severity, or frequency) given (a) the research procedures that are described in the protocol-related documents, such as the IRB-approved research protocol and informed consent document; and (b) the characteristics of the subject population being studied;
- Is related or possibly related to a subject's participation in the research; and
- Suggests that the research places subjects or others at a greater risk of harm (including physical, psychological, economic, or social harm) related to the research than was previously known or recognized.

We anticipate minimum risk of this study. The PERC and NCI websites provide a series of state-of-science resources that the participants can use at their convenience. We will also refer them to their treating doctors and nurse practitioners should any serious event happen.

6.2 Reporting

We will report to the UNC IRB using the IRB's web-based reporting system any unanticipated problem that occurs during the conduct of this study and that meets **at least** the first two criteria listed in 6.1.

7.0 STATISTICAL CONSIDERATIONS

7.1 Study Design

This study is a two-arm, parallel group randomized controlled trial (RCT) to test the efficacy of PERC, a theory-based, couple-focused, tailored mHealth program aimed to improve the QOL of patients with prostate cancer and their partners. After baseline measures (T1, following consent), 250 patient-partner dyads will be randomly assigned to PERC or to control (usual care plus the NCI website) groups. Participants will complete three surveys to assess the short, intermediate, and long-term effects of PERC: at 4 months post-T1 (T2), 8 months post-T1 (T3), and 12 months post-T1 (T4).

7.2 Sample Size and Power

We calculated power for comparing our primary outcome (overall QOL) in the Primary Objective using a standard approach for linear mixed models. Because we will assess outcomes for patients and partners separately, we applied a Bonferroni-corrected, two-sided alpha of 0.025 to allow for separate overall tests for patients and partners. This is because, although dyadic data will be modeled simultaneously, conclusions may differ for patients and partners. Based on our pilot test of PERC, we assumed a common standard deviation for the overall QOL scores of 15 points and a within-person correlation between repeated measurements of 0.75. Also, we allowed for losing up to 7% of participants every 4 months, for a total attrition of 20% through 12 months.

Under these assumptions (based on our preliminary studies), we report power for two scenarios, first allowing for attenuating effects, and then assuming constant effects. For the first scenario, we assumed that, on average, PERC would result in improved QOL relative to the control condition, but that these benefits might realistically be expected to decrease somewhat over time. Assuming that the mean difference between groups would be 7.5 points in overall QOL scores at 4 months (i.e., a moderate effect size of 0.5 that would represent a clinically meaningful difference immediately following the intervention) and that this would decrease by 15% every 4 months, randomizing 125 dyads per group would provide 90% power to reject the overall null hypothesis of no differences between groups across all time points. Furthermore, with this scenario, this sample size would provide 94% power for the 4-month comparison, 83% power for the 8-month comparison, and 51% power for the 12-month comparison. For the second scenario, we assumed that the intervention has a constant effect of 6.5 points at each time point (an effect size of 0.43). This sample size will provide at least 80% power for each comparison.

7.3 Data Analysis Plans

A detailed analysis plan will be developed prior to initiating the study; the following is a summary of the proposed plan. Unless otherwise specified, all analyses will include all randomized participants, in the arm to which they are randomized, regardless of the extent of intervention received (intention-to-treat).

Primary Objective: We will compare the longitudinal mean change in overall QOL between groups using analysis of covariance (ANCOVA), conducted using linear mixed models. Data for patients and partners will be fit together in the same model (accounting for within-dyad correlation), which will allow us to readily assess for differential treatment effects between patients and partners. Mixed models will allow for the inclusion of all observed data for all dyads, assuming any missing data are

missing at random. Each model will include fixed effects (separate for patient or partner) for group, month, group-by-month interactions, the baseline value of the outcome scale, baseline treatment type (surgery and radiation +/-hormonal therapy), number of baseline comorbidities, baseline couple relationship quality, baseline family disruptions, age, race/ethnicity, education, income, and number of people supported by the income. These covariates were selected because they are potentially associated with QOL. Models will include random dyad and participant nested within dyad effects to account for within-dyad and within-person correlations between longitudinal responses. For the primary comparison, separately for each participant type, we will first test for any differences between groups across all 3 time points using an appropriately specified 3 degree of freedom linear contrast. Only if this test is significant ($p \leq 0.025$), will we test for group differences at each time point.

Secondary Objectives: We will primarily use similar models to compare each of the QOL subdomains groups, and to test the Secondary outcome hypotheses. We will explore the potential mediating effects of appraisal and coping resources using a longitudinal path analysis model, which will not be the primary analysis for this aim because it requires much stronger assumptions than randomization as a basis for inference. The path model will be a cross-lagged longitudinal model with paths connecting all appraisal and coping variables from prior visits with QOL at subsequent visits, and paths to determine whether a patient's appraisal or coping might influence his partner's QOL, and vice versa. The model will include all appropriate within-dyad and longitudinal correlations. We will assess path model fit using several fit indices: the root mean square error of approximation (RMSEA), along with a 90% confidence interval, Bollen's incremental fit index (IFI), and the Tucker-Lewis fit index (TLI).

Exploratory Objectives: We will test appropriate experimental group-by-characteristic interactions using similar linear mixed models as specified for the Primary Objective. We will only explore effects within subgroups (e.g., within race and ethnicity, high school or lower vs. college or above, higher vs. lower quality relationships, or treatment type subgroups) if the corresponding interaction terms are significant at the 5% level in their respective models. We will also analyze outcome and process data to identify critical characteristics of PERC participants, e.g., differences in racial/ethnic and education, in their PERC use patterns and outcomes (e.g., Forum users vs. non-users).

7.4 Data Management/Audit

7.4.1 Data management.

- A. Rapid Case Ascertainment (RCA) will maintain the patient referral database for the proposed research project on a secure network drive at the NC Central Cancer Registry. Downloaded files from the RCA project database to the researcher portal are encrypted with PGP software by RCA staff. The encrypted files are electronically transferred through SFTP to the secure integrated research system on the UNC server. The encrypted files on the UNC server is electronically retrieved through SFTP by the authorized personnel who directly works on the research project, including the project coordinator and the health educator.
- B. All survey data will be collected and managed by research staff using REDCap. study ID numbers will indicate the identities of subjects, and this information will be

accessible only to the study investigators. All questionnaires will bear study ID numbers only. Research team staff will conduct all telephone survey sessions in a private workstation in a private office designated to the research team. The telephone surveys will be recorded and reviewed by the PI, research staff at the project office to ensure adherence to the study protocol as well as data completeness and accuracy. We will randomly check at least 10% of the recordings against completed data for adherence to protocol, data completeness, and accuracy.

REDCap online database will be managed by the TraCS Clinical Research Data Management Service. NC TraCS is a key initiative of the Biomedical Informatics core of the UNC-Chapel Hill CTSA. The purpose is to provide a system and associated support resources, to enable efficient and high-quality collection and management of research data that is standards-based in design, development and implementation. Standard features of electronic clinical research data management systems are available in the web-based systems provided with the service. These include interactive data entry with real-time field validation, lab data imports, audit logs to record database modifications, database integrity checks, security (in logins, permissions based on need, and encryption), reporting, forms inventory, and exports to common statistical packages for analysis. Logging tracks all data entered in REDCap so that it can be traced back to the person who entered it. No data can be changed without showing who has made the changes. This allows the study team to ensure there is security and integrity of the data collected and submitted, there are controls surrounding this aspect. REDCap also provides for principle investigator to sign off on the data, as required in FDA studies. Although users can modify data based on their permissions, they cannot delete the subject or history of that subject. Requests to delete a subject must be made to the REDCap system administrator. Our database system provides for secure web-based data entry with the data stored on servers that staff at NC TraCS maintain. The data is encrypted during transmission. The servers are located in a secure campus area with all the appropriate physical security measures in place. The web and database servers are monitored by the TraCS IT staff, patched frequently, and scanned by a third-party vendor to ensure that they are protected against known vulnerabilities. The scanning application is the standard service for the entire campus. Access is by individual user id and is restricted to the forms and/or functions that the user needs to have. The applications themselves are written using open source tools and have also been scanned by campus security office to ensure that the applications also are protected from known exploits. The data is backed up to electronic media on a daily basis. The electronic media is secured by ITS stored in a secure area separate from the servers.

- C. The study website for PERC and NCI landing is hosted and maintained by the Communication for Health Applications and Interventions (CHAI) of the UNC Lineberger Comprehensive Cancer Center. The web activity data of all participants will be deidentified (using randomly assigned user IDs) and automatically tracked via a built-in feature of the study website. The de-identified web activity data from the PERC website and the NCI website landing page at CHAI will be automatically electronically transferred through SFTP to the research office at the School of Nursing on a weekly basis.
- D. All administrative data (including randomization, referral data) will be centrally managed using REDCap at the PI's research office at the School of Nursing and accessed only to the study investigators and research staff. These administrative data

will be managed separately from the deidentified, password protected, encrypted and securely transferred data including surveys and web activity data. The PI and project coordinator will examine weekly the accuracy of the data files and completeness of the data.

7.4.2. Data Monitoring/Audit.

Per our consultation with the DSMB at UNC School of Medicine, although this is a randomized clinical trial, a DSMB is not needed because this study is of such low risk. With a primary outcome of change in quality of life (QOL) between the PERC intervention and the usual care plus NCI website control groups, there would not be anything significant to provide to the DSMB that might signal a reason for the DSMB to stop a study. However, we will implement a data and safety-monitoring plan to ensure the safety of participants as well as the validity and integrity of the data. The data monitoring plans are as follows:

A.Oversight for this study will be provided by the PI with input and advice from the team. An Adverse Event Monitoring Committee oversees the conduct of the study. Chaired by the Dr. Song (PI), the committee will be comprised of all of the Co-investigators: Drs. Rini, Palmer, Chen, Nielsen, Tan, Keyserling, and Northouse. Dr. Song will chair the committee, which will meet as needed to review the activities of the study including management, personnel, recruitment, performance, and any emerging problems.

The research staff will ensure all entry criteria are met prior to the initiation of the protocol and all study procedures and reporting of adverse events and unanticipated events will be performed according to the IRB-approved protocol. Any actions taken and associated follow-up activities will be recorded in the study database. All intervention-related adverse events will be reported by the PIs to the IRB within 3-7 days. The PI will submit necessary reports to NINR. The PI and the Adverse Event Monitoring Committee will assess the level of risk from adverse events as mild (no interference in usual activities); moderate (some interference in usual activities); or severe (usual activities were significantly interrupted). The PI and the Adverse Event Monitoring Committee will rate the assessment of attribution to the study as not related, unlikely, possible, probable, or definite.

B.An Independent monitor, Dr. Ray Tan (UNC Urologist), will be independent from the present study design and implementation and will be available as needed to advise oversight committees

To protect the confidentiality of participant data, the research team will conduct all research activities related to data processing involving identifiable data in a private office at the University of North Carolina-Chapel Hill School of Nursing (UNC-CH SON) that is dedicated to the project. This study has minimum hardcopy research records; the PI and the Safety Officer will ensure all records to be saved in a locked cabinet in the locked private office. With most data and documents being electronic, the PI and the Safety Officer will ensure that the identifiable and de-identified data and documents are saved separately in different project folders in the password-protected and encrypted, shared drive at the UNC-CH SON, which is on a secure UNC server. Only authorized key study personnel will have access to the identifiable information.

The de-identified electronic data will include survey recordings and the recordings of monthly meetings between the educator and study participants for

quality control, survey data, study progress data and documents, and web activity tracking data. The PI and the Safety Officer will ensure that these data are tracked using study ID with no patient identifiable information attached. As a part of the UNC network and complying with UNC security regulations, the IT staff at SON works closely with the campus IT and other technology groups to ensure both security and efficiency for the proposed study.

Adverse event reports and annual summaries will not include participant-identifiable material. Each will include the identification code only.

8.0 STUDY MANAGEMENT

8.1 Institutional Review Board (IRB) Approval and Consent

It is expected that the IRB will have the proper representation and function in accordance with federally mandated regulations. The IRB should approve the consent form and protocol.

In obtaining and documenting informed consent, the investigator should comply with the applicable regulatory requirement(s), and should adhere to Good Clinical Practice (GCP) and to ethical principles that have their origin in the Declaration of Helsinki.

Before recruitment and enrollment onto this study, we will mail study brochure and consent information to potential participants referred by the NC Central Cancer Registry. The patient and his partner will also be given a full explanation of the study and will be given the opportunity to review the study information and the consent form via telephone. Each consent form will include all the relevant elements currently required by the UNC IRB or state regulations. Once this essential information has been provided to the patient and his partner the investigator is assured that they understand the implications of participating in the study, they will be asked to give consent to participate in the study by consenting verbally the IRB-approved consent form when potential participants interviewed and screened via telephone. All consent processes will be recorded and saved in a file separate from other deidentified study materials in password protected, encrypted shared drive on the UNC server.

8.2 Required Documentation

Before the study can be initiated at any site, the following documentation must be provided to the Clinical Protocol Office (CPO) at the University of North Carolina.

- A copy of the official IRB approval letter for the protocol and informed consent
- CVs and medical licensure for the principal investigator and any associate investigators who will be involved in the study
- A copy of the IRB-approved consent form

8.3 Registration Procedures

REDCap will be used to keep track of participants' recruitment and other project activities. We have used REDCap to manage our patient recruitment and project activities in the past We will register all enrolled participants in OnCore. We have also registered this project on CT.gov.

8.4 Adherence to the Protocol

Except for an emergency situation in which proper care for the protection, safety, and well-being of the study patient requires alternative treatment, the study shall be conducted exactly as described in the approved protocol.

8.4.1 Emergency Modifications

UNC investigators may implement a deviation from, or a change of, the protocol to eliminate an immediate hazard(s) to trial subjects without prior UNC IRB approval.

8.4.2 Single Patient/Subject Exceptions

Any request to enroll a single subject who does not meet all the eligibility criteria of this study requires the approval of the UNC Principal Investigator and the UNC IRB.

No

8.4.3 Other Protocol Deviations/Violations

According to UNC's IRB, a protocol deviation is any unplanned variance from an IRB approved protocol that:

- Is generally noted or recognized after it occurs
- Has no substantive effect on the risks to research participants
- Has no substantive effect on the scientific integrity of the research plan or the value of the data collected
- Did not result from willful or knowing misconduct on the part of the investigator(s).

An unplanned protocol variance is considered a violation if the variance meets any of the following criteria:

- Has harmed or increased the risk of harm to one or more research participants.
- Has damaged the scientific integrity of the data collected for the study.
- Results from willful or knowing misconduct on the part of the investigator(s).
- Demonstrates serious or continuing noncompliance with federal regulations, State laws, or University policies.

If a deviation or violation occurs please follow the guidelines below:

Protocol Deviations: UNC personnel will record the deviation in OnCore® (or other appropriate database set up for the study), and report to any sponsor or data and safety monitoring committee in accordance with their policies. Deviations should be summarized and reported to the IRB at the time of continuing review.

Protocol Violations: Violations should be reported by UNC personnel within one (1) week of the investigator becoming aware of the event using the same IRB online mechanism used to report UPIRSO.

Unanticipated Problems Involving Risks to Subjects or Others (UPIRSO):

Any events that meet the criteria for “Unanticipated Problems” as defined by UNC’s IRB (see section 6.1) must be reported by the Study Coordinator using the IRB’s web-based reporting system.

8.5 Amendments to the Protocol

Should amendments to the protocol be required, the amendments will be originated and documented by the Principal Investigator at UNC. It should also be noted that when an amendment to the protocol substantially alters the study design or the potential risk to the patient, a revised consent form might be required.

The written amendment, and if required the amended consent form, must be sent to UNC’s IRB for approval prior to implementation.

8.6 Record Retention

Study documentation includes all Case Report Forms, data correction forms or queries, source documents, Sponsor-Investigator correspondence, monitoring logs/letters, and regulatory documents (e.g., protocol and amendments, IRB correspondence and approval, signed patient consent forms).

Source documents include all recordings of observations or notations of clinical activities and all reports and records necessary for the evaluation and reconstruction of the clinical research study.

Government agency regulations and directives require that all study documentation pertaining to the conduct of a clinical trial must be retained by the study investigator. In the case of a study with a drug seeking regulatory approval and marketing, these documents shall be retained for at least two years after the last approval of marketing application in an International Conference on Harmonization (ICH) region. In all other cases, study documents should be kept on file until three years after the completion and final study report of this investigational study.

8.7 Obligations of Investigators

The Principal Investigator is responsible for the conduct of the clinical trial at the site in accordance with Title 21 of the Code of Federal Regulations and/or the Declaration of Helsinki. The Principal Investigator is responsible for personally overseeing the treatment of all study patients. The Principal Investigator must assure that all study site personnel, including sub-investigators and other study staff members, adhere to the study protocol and all FDA/GCP/NCI regulations and guidelines regarding clinical trials both during and after study completion.

The Principal Investigator at each institution or site will be responsible for assuring that all the required data will be collected and entered onto the Case Report Forms. Periodically, monitoring visits will be conducted and the Principal Investigator will provide access to his/her original records to permit verification of proper entry of data. At the completion of the study, all case report forms will be reviewed by the Principal Investigator and will require his/her final signature to verify the accuracy of the data.

9.0 REFERENCES

1. American Cancer Society. Cancer Facts & Figures 2016. Atlanta, 2016.

2. Siegel R, DeSantis C, Virgo K, Stein K, Mariotto A, Smith T, Cooper D, Gansler T, Lerro C, Fedewa S, Lin C, Leach C, Cannady RS, Cho H, Scoppa S, Hachey M, Kirch R, Jemal A, Ward E. Cancer treatment and survivorship statistics, 2012. *CA Cancer J Clin*. 2012;62(4):220-41. Epub 2012/06/16. doi: 10.3322/caac.21149. PubMed PMID: 22700443.
3. National Cancer Institute. SEER Cancer Statistics Factsheets: Prostate Cancer. U.S. National Institutes of Health: National Cancer Institute; 2014.
4. Skolarus TA, Wolf AM, Erb NL, Brooks DD, Rivers BM, Underwood W, 3rd, Salner AL, Zelefsky MJ, Aragon-Ching JB, Slovin SF, Wittmann DA, Hoyt MA, Sinibaldi VJ, Chodak G, Pratt-Chapman ML, Cowens-Alvarado RL. American Cancer Society prostate cancer survivorship care guidelines. *CA Cancer J Clin*. 2014;64(4):225-49. Epub 2014/06/12. doi: 10.3322/caac.21234; PMCID: 24916760
5. O'Brien R, Rose P, Campbell C, Weller D, Neal RD, Wilkinson C, McIntosh H, Watson E. "I wish I'd told them": a qualitative study examining the unmet psychosexual needs of prostate cancer patients during follow-up after treatment. *Patient education and counseling*. 2011;84(2):200-7. Epub 2010/08/13. doi: 10.1016/j.pec.2010.07.006.
6. Hanly N, Mireskandari S, Juraskova I. The struggle towards 'the New Normal': a qualitative insight into psychosexual adjustment to prostate cancer. *BMC Urol*. 2014;14(1):56. Epub 2014/07/31. doi: 10.1186/1471-2490-14-56.
7. Letts C, Tamlyn K, Byers ES. Exploring the impact of prostate cancer on men's sexual well-being. *J Psychosoc Oncol*. 2010;28(5):490-510. Epub 2010/08/24. doi: 10.1080/07347332.2010.498457. PubMed PMID: 20730661.
8. Galbraith ME, Fink R, Wilkins GG. Couples Surviving Prostate Cancer: Challenges in Their Lives and Relationships. *Seminars in Oncology Nursing*. 2011;27(4):300-8. doi: <http://dx.doi.org/10.1016/j.soncn.2011.07.008>.
9. Northouse LL, Mood D, Montie JE, Sandler HM, Forman JD, Hussain M, Pienta K, Smith DC, Sanda MG, Kershaw T. Living with Prostate Cancer: Patients' and Spouses' Psychosocial Status and Quality of Life. *Journal of Clinical Oncology*. 2007;25:4171-7.
10. Song L, Northouse LL, Braun TM, Zhang L, Cimprich B, Ronis DL, Mood DW. Assessing longitudinal quality of life in prostate cancer patients and their spouses: a multilevel modeling approach. *Qual Life Res*. 2011;20(3):371-381. Epub 2010/10/12. doi: 10.1007/s11136-010-9753-y. PubMed PMID: 20927648. PMCID: PMC3888242
11. Hewitt M, Greenfield S, Stovall EL. From cancer patient to cancer survivors: lost in transition 2005.
12. Viswanathan M, Halpern M, Swinson Evans T, Birken SA, Mayer DK, Basch E. Models of Cancer Survivorship Care 2014. Report No.: 14-EHC011-EF
13. Hoekstra RA, Heins MJ, Korevaar JC. Health care needs of cancer survivors in general practice: a systematic review. *BMC family practice*. 2014;15:94. Epub 2014/06/03. doi: 10.1186/1471-2296-15-94; PMCID: Pmc4031325.
14. Bazzell JL, Spurlock A, McBride M. Matching the Unmet Needs of Cancer Survivors to Resources Using a Shared Care Model. *J Cancer Educ*. 2014. Epub 2014/08/12. doi: 10.1007/s13187-014-0708-9.
15. Song L, Rini C, Deal AM, Nielsen ME, Chang H, Kinneer P, Teal R, Johnson DC, Dunn MW, Mark B, Palmer MH. Improving Couples' Quality Of Life Through A Web-Based, Couple-Oriented Prostate Cancer Education Intervention. *Oncology Nursing Forum*. 2015;42(2):183-92. doi: 10.1188/15.ONF.183-192. PMCID: PMC5123564
16. Northouse LL, Mood DW, Schafenacker A, Montie JE, Sandler HM, Forman JD, Hussain M, Pienta KJ, Smith DC, Kershaw T. Randomized clinical trial of a family intervention for prostate cancer patients and their spouses. *Cancer*. 2007;110(12):2809-18. PubMed PMID: 17999405.

17. Northouse LL, Mood D, Kershaw T, Schafenacker A, Mellon S, Walker J, Galvin E, Decker V. Quality of life of women with recurrent breast cancer and their family members. *Journal of Clinical Oncology* 2002;20:4050-64. PubMed PMID: 2003035728.
18. Oncology Nursing Society. Putting evidence into practice. A pocket guide to cancer symptom management. Pittsburgh, Pennsylvania: Oncology Nursing Society; 2016.
19. NCCN Clinical Practice Guidelines in Oncology (NCCN Guideline): Prostate Cancer [Internet]. National Comprehensive Cancer Network. 2014.
20. Gore JL, Kwan L, Lee SP, Reiter RE, Litwin MS. Survivorship beyond convalescence: 48-month quality-of-life outcomes after treatment for localized prostate cancer. *Journal of the National Cancer Institute*. 2009;101(12):888-92. Epub 2009/06/11. doi: 10.1093/jnci/djp114. PubMed PMID: 19509365.
21. Sanda MG, Dunn RL, Michalski J, Sandler HM, Northouse L, Hembroff L, Lin X, Greenfield TK, Litwin MS, Saigal CS, Mahadevan A, Klein E, Kibel A, Pisters LL, Kuban D, Kaplan I, Wood D, Ciezki J, Shah N, Wei JT. Quality of life and satisfaction with outcome among prostate-cancer survivors. *New England Journal of Medicine*. 2008;358(12):1250-61. PubMed PMID: 18354103.
22. Chen RC, Zhang Y, Chen MH, McMahon E, Loffredo M, McPherson CP, Nguyen AU, Nguyen PL, D'Amico AV. Patient-reported quality of life during radiation treatment for localized prostate cancer: results from a prospective phase II trial. *BJU international*. 2012;110(11):1690-5. Epub 2012/04/17. doi: 10.1111/j.1464-410X.2012.11117.x. PubMed PMID: 22502770.
23. Matthew AG, Alibhai SM, Davidson T, Currie KL, Jiang H, Krahn M, Fleshner NE, Kalnin R, Louis AS, Davison BJ, Trachtenberg J. Health-related quality of life following radical prostatectomy: long-term outcomes. *Qual Life Res*. 2014;23(8):2309-17. Epub 2014/03/13. doi: 10.1007/s11136-014-0664-1.
24. Prabhu V, Lee T, McClintock TR, Lepor H. Short-, Intermediate-, and Long-term Quality of Life Outcomes Following Radical Prostatectomy for Clinically Localized Prostate Cancer. *Rev Urol*. 2013;15(4):161-77. Epub 2013/01/01; PMID: PMC3922321.
25. Crook JM, Gomez-Iturriaga A, Wallace K, Ma C, Fung S, Alibhai S, Jewett M, Fleshner N. Comparison of Health-Related Quality of Life 5 Years After SPIRIT: Surgical Prostatectomy Versus Interstitial Radiation Intervention Trial. *Journal of Clinical Oncology*. 2011;29(4):362-8. doi: 10.1200/jco.2010.31.7305.
26. van Tol-Geerdink JJ, Leer JWH, van Oort IM, van Lin EJNT, Weijerman PC, Vergunst H, Witjes JA, Stalmeier PFM. Quality of life after prostate cancer treatments in patients comparable at baseline. *British journal of cancer*. 2013;108(9):1784-9. doi: 10.1038/bjc.2013.181.
27. Bourke L, Smith D, Steed L, Hooper R, Carter A, Catto J, Albertsen PC, Tombal B, Payne HA, Rosario DJ. Exercise for Men with Prostate Cancer: A Systematic Review and Meta-analysis. *European urology*. 2016;69(4):693-703. Epub 2015/12/04. doi: 10.1016/j.eururo.2015.10.047. PubMed PMID: 26853923.
28. Harrison J, Young J, Price M, Butow P, Solomon M. What are the unmet supportive care needs of people with cancer? A systematic review. *Supportive Care in Cancer*. 2009;17(8):1117-28. doi: 10.1007/s00520-009-0615-5.
29. Lev E, Eller L, Gejerman G, Kolassa J, Colella J, Pezzino J, Lane P, Munver R, Esposito M, Sheuch J, Lanteri V, Sawczuk I. Quality of life of men treated for localized prostate cancer: outcomes at 6 and 12 months. *Supportive Care in Cancer*. 2009;17(5):509-17. doi: 10.1007/s00520-008-0493-2.
30. Reeve BB, Chen RC, Moore DT, Deal AM, Usinger DS, Lyons JC, Talcott JA. Impact of comorbidity on health related quality of life after prostate cancer treatment: combined analysis of two prospective cohort studies. *BJU international*. 2014. Epub 2014/03/05. doi: 10.1111/bju.12723. PubMed PMID: 24588845.

31. Epstein MM, Edgren G, Rider JR, Mucci LA, Adami HO. Temporal trends in cause of death among Swedish and US men with prostate cancer. *Journal of the National Cancer Institute*. 2012;104(17):1335-42. Epub 2012/07/28. doi: 10.1093/jnci/djs299; PMID: PMC3529593.
32. Carneiro A, Sasse AD, Wagner AA, Peixoto G, Kataguir A, Neto AS, Bianco BA, Chang P, Pompeo AC, Tobias-Machado M. Cardiovascular events associated with androgen deprivation therapy in patients with prostate cancer: a systematic review and meta-analysis. *World journal of urology*. 2015;33(9):1281-9. Epub 2014/11/13. doi: 10.1007/s00345-014-1439-6. PubMed PMID: 25921545.
33. Nguyen PL, Je Y, Schutz FA, Hoffman KE, Hu JC, Parekh A, Beckman JA, Choueiri TK. Association of androgen deprivation therapy with cardiovascular death in patients with prostate cancer: a meta-analysis of randomized trials. *Jama*. 2011;306(21):2359-66. Epub 2011/12/08. doi: 10.1001/jama.2011.1745.
34. Edwards BK, Noone AM, Mariotto AB, Simard EP, Boscoe FP, Henley SJ, Jemal A, Cho H, Anderson RN, Kohler BA, Ehemann CR, Ward EM. Annual Report to the Nation on the status of cancer, 1975-2010, featuring prevalence of comorbidity and impact on survival among persons with lung, colorectal, breast, or prostate cancer. *Cancer*. 2014;120(9): 1290-314. Epub 2013/12/18. doi: 10.1002/cncr.28509; PMID: PMC3999205.
35. Cheville AL, Kollasch J, Vandenberg J, Shen T, Grothey A, Gamble G, Basford JR. A home-based exercise program to improve function, fatigue, and sleep quality in patients with Stage IV lung and colorectal cancer: a randomized controlled trial. *J Pain Symptom Manage*. 2013;45(5):811-21. Epub 2012/09/29. doi:10.1016/j.jpainsymman.2012.05.006. PubMed PMID: 23017624; PMID: PMC4524515.
36. Mishra SI, Scherer RW, Geigle PM, Berlanstein DR, Topaloglu O, Gotay CC, Snyder C. Exercise interventions on health-related quality of life for cancer survivors. *The Cochrane database of systematic reviews*. 2012;8:CD007566. Epub 2012/08/17. doi: 10.1002/14651858.CD007566.pub2. PubMed PMID: 22895961.
37. Kenfield SA, DuPre N, Richman EL, Stampfer MJ, Chan JM, Giovannucci EL. Mediterranean diet and prostate cancer risk and mortality in the Health Professionals Follow-up Study. *European urology*. 2014;65(5):887-94. Epub 2013/08/22. doi: 10.1016/j.eururo.2013.08.009. PubMed PMID: 23962747; PMID: PMC4157361.
38. Lopez-Guarnido O, Alvarez-Cubero MJ, Saiz M, Lozano D, Rodrigo L, Pascual M, Cozar JM, Rivas A. Mediterranean diet adherence and prostate cancer risk2015(1699-5198 (Electronic)).
39. Moller E, Galeone C, Andersson TM, Bellocchio R, Adami HO, Andren O, Gronberg H, La Vecchia C, Mucci LA, Balter K. Mediterranean Diet Score and prostate cancer risk in a Swedish population-based case-control study. *Journal of nutritional science*. 2013;2:e15. Epub 2013/01/01. doi: 10.1017/jns.2013.2; PMID: PMC4153088.
40. Hooper L, Abdelhamid A, Moore HJ, Douthwaite W, Skeaff CM, Summerbell CD. Effect of reducing total fat intake on body weight: systematic review and meta-analysis of randomised controlled trials and cohort studies. *BMJ (Clinical research ed)*. 2012;345:e7666. Epub 2012/12/12. doi: 10.1136/bmj.e7666. PubMed PMID: 22147380; PMID: PMC3516671.
41. Dinu M, Abbate R, Gensini GF, Casini A, Sofi F. Vegetarian, vegan diets and multiple health outcomes: a systematic review with meta-analysis of observational studies. *Critical reviews in food science and nutrition*. 2016;0. Epub 2016/02/09. doi: 10.1080/ 10408398.2016.1138447. PubMed PMID: 25387877.
42. Castro I, Waclawovsky G, Marcadenti A. Nutrition and physical activity on hypertension: implication of current evidence and guidelines. *Current hypertension reviews*. 2015;11(2):91-9. Epub 2015/04/30. PubMed PMID: 23220130.

43. Ervik B, Nordøy T, Asplund K. In the Middle and on the Sideline: The Experience of Spouses of Men With Prostate Cancer. *Cancer nursing*. 2013;36(3):E7-E14
0.1097/NCC.0b013e31824fe1ef.
44. Kershaw T, Mood D, Newth G, Ronis DL, Sanda M, Vaishampayan U, Northouse LL. Longitudinal analysis of a model to predict quality of life in prostate cancer patients and their spouses. *Annals of Behavioral Medicine*. 2008;36(2):117-28.
45. Hagedoorn M, Sanderman R, Bolks HN, Tuinstra J, Coyne JC. Distress in couples coping with cancer: a metaanalysis and critical review of role and gender effects. *Psychological Bulletin*. 2008;134(1):1-30. PubMed PMID:18193993.
46. National Comprehensive Cancer Network. NCCN Guidelines for Patients: Prostate Cancer. 2014.
47. Skolarus TA, Holmes-Rovner M, Northouse LL, Fagerlin A, Garlinghouse C, Demers RY, Rovner DR, Darwish-Yassine M, Wei JT. Primary care perspectives on prostate cancer survivorship: Implications for improving quality of care. *Urologic oncology*. 2011;31(6):727-32. Epub 2011/07/22. doi: 10.1016/j.urolonc.2011.06.002. PubMed PMID: 21775171; PMCID: 3213312.
48. Ezer H, Chachamovich JL, Chachamovich E. Do men and their wives see it the same way? Congruence within couples during the first year of prostate cancer. *Psycho-oncology*. 2011;20(2):155-64. Epub 2010/09/30. doi: 10.1002/pon.1724.
49. Cockle-Hearne J, Faithfull S. Self-management for men surviving prostate cancer: a review of behavioural and psychosocial interventions to understand what strategies can work, for whom and in what circumstances. *Psychooncology*. 2010;19(9):909-22. Epub 2010/02/02. doi: 10.1002/pon.1657.
50. Garrett BM, Oliffe JL, Bottorff JL, McKenzie M, Han CS, Ogrodniczuk JS. The value of prostate cancer support groups: a pilot study of primary physicians' perspectives. *BMC family practice*. 2014;15:56. Epub 2014/03/29. doi: 10.1186/1471-2296-15-56. PubMed PMID: 24754582; PMCID: PMC3972516.
51. Silveira MJ, Given CW, Cease KB, Sikorskii A, Given B, Northouse LL, Piette JD. Cancer Carepartners: Improving patients' symptom management by engaging informal caregivers. *BMC palliative care*. 2011;10:21. Epub 2011/11/29. doi: 10.1186/1472-684x-10-21. PubMed PMID: 22117890; PMCID: 3295676.
52. O'Toole MS, Zachariae R, Renna ME, Mennin DS, Applebaum A. Cognitive behavioral therapies for informal caregivers of patients with cancer and cancer survivors: a systematic review and meta-analysis. *Psycho-oncology*. 2016. Epub 2016/05/06. doi: 10.1002/pon.4144.
53. Anderson CA, Omar MI, Campbell SE, Hunter KF, Cody JD, Glazener CM. Conservative management for postprostatectomy urinary incontinence. *The Cochrane database of systematic reviews*. 2015;1:CD001843. Epub 2015/01/21. doi: 10.1002/14651858.CD001843.pub5.
54. Campbell SE, Glazener CM, Hunter KF, Cody JD, Moore KN. Conservative management for postprostatectomy urinary incontinence. *The Cochrane database of systematic reviews*. 2012;1:CD001843. Epub 2012/01/20. doi: 10.1002/14651858.CD001843.pub4.
55. Campbell LC, Keefe FJ, Scipio C, McKee DC, Edwards CL, Herman SH, Johnson LE, Colvin OM, McBride CM, Donatucci C. Facilitating research participation and improving quality of life for African American prostate cancer survivors and their intimate partners. A pilot study of telephone-based coping skills training. *Cancer*. 2007;109(2 Suppl):414-24. PubMed PMID: 17173280.
56. McCaughan E, Prue G, McSorley O, Northouse L, Schafenacker A, Parahoo K. A randomized controlled trial of a self-management psychosocial intervention for men with prostate cancer and their partners: a study protocol. *J Adv Nurs*. 2013;69(11):2572-83. Epub 2013/03/27. doi: 10.1111/jan.12132. PubMed PMID: 23528148.

57. Chambers SK, Schover L, Halford K, Clutton S, Ferguson M, Gordon L, Gardiner RA, Occhipinti S, Dunn J. ProsCan for Couples: randomised controlled trial of a couples-based sexuality intervention for men with localised prostate cancer who receive radical prostatectomy. *BMC cancer*. 2008;8:226. doi: 1186/1471-2407-8-207. PubMed PMID: 18687149.
58. Lambert SD, Girgis A, Turner J, McElduff P, Kayser K, Vallentine P. A pilot randomized controlled trial of the feasibility of a self-directed coping skills intervention for couples facing prostate cancer: rationale and design. *Health and quality of life outcomes*. 2012;10:119-7525-10-119. doi: 10.1186/1477-7525-10-119; 10.1186/1477-7525-10-119.
59. Walker LM, Hampton AJ, Wassersug RJ, Thomas BC, Robinson JW. Androgen Deprivation Therapy and maintenance of intimacy: a randomized controlled pilot study of an educational intervention for patients and their partners. *Contemp Clin Trials*. 2013;34(2):227-31. Epub 2012/12/12. doi: 10.1016/j.cct.2012.11.007. PubMed PMID: 23220254.
60. Nelson CJ, Kenowitz J. Communication and intimacy-enhancing interventions for men diagnosed with prostate cancer and their partners. *J Sex Med*. 2013;10 Suppl 1:127-32. Epub 2013/02/15. doi: 10.1111/jsm.12049. PubMed PMID: 23387918; PMCID: PMC4324570.
61. Manne SL, Kissane DW, Nelson CJ, Mulhall JP, Winkel G, Zaider T. Intimacy-enhancing psychological intervention for men diagnosed with prostate cancer and their partners: a pilot study. *J Sex Med*. 2011;8(4):1197-209. Epub 2011/01/08. doi: 10.1111/j.1743-6109.2010.02163.x. PubMed PMID: 21210958; PMCID: 3070795.
62. Badger TA, Segrin C, Figueredo AJ, Harrington J, Sheppard K, Passalacqua S, Pasvogel A, Bishop M. Psychosocial interventions to improve quality of life in prostate cancer survivors and their intimate or family partners. *Qual Life Res*. 2010;20(6):833-44. Epub 2010/12/21. doi: 10.1007/s11136-010-9822-2. PubMed PMID: 21170682.
63. Galvao DA, Spry N, Denham J, Taaffe DR, Cormie P, Joseph D, Lamb DS, Chambers SK, Newton RU. A multicentre year-long randomised controlled trial of exercise training targeting physical functioning in men with prostate cancer previously treated with androgen suppression and radiation from TROG 03.04 RADAR. *European urology*. 2014;65(5):856-64. Epub 2013/10/12. doi: 10.1016/j.eururo.2013.09.041. PubMed PMID: 24113319.
64. Zopf EM, Braun M, Machtens S, Zumbé J, Bloch W, Baumann FT. Implementation and scientific evaluation of rehabilitative sports groups for prostate cancer patients: study protocol of the ProRehab Study. *BMC cancer*. 2012;12:312-2407-12-312. doi: 10.1186/1471-2407-12-312; 10.1186/1471-2407-12-312.
65. Slev VN, Mistiaen P, Pasman HR, Verdonck-de Leeuw IM, Uden-Kraan CF, Francke AL. Effects of eHealth for patients and informal caregivers confronted with cancer: A meta-review. *International journal of medical informatics*. 2016;87:54-67. Epub 2016/01/26. doi: 10.1016/j.ijmedinf.2015.12.013. PubMed PMID: 24366061.
66. Salonen A, Ryhanen AM, Leino-Kilpi H. Educational benefits of Internet and computer-based programmes for prostate cancer patients: a systematic review. *Patient education and counseling*. 2014;94(1):10-9. Epub 2013/09/12. doi: 10.1016/j.pec.2013.08.022. PubMed PMID: 24331342.
67. Health Online 2013 [Internet]. Pew Research Center. 2013 [cited March 12, 2016]. Available from: <http://www.pewinternet.org/2013/01/15/health-online-2013/>.
68. Tracking for Health [Internet]. Pew Research Center. 2013 [cited March 12, 2016]. Available from: <http://www.pewinternet.org/2013/06/20/family-caregivers-and-health-care-info/>.
69. Bakitas MA, Elk R, Astin M, Ceronsky L, Clifford KN, Dionne-Odom JN, Emanuel LL, Fink RM, Kvale E, Levkoff S, Ritchie C, Smith T. Systematic Review of Palliative Care in the Rural Setting. *Cancer control : journal of the Moffitt Cancer Center*. 2015;22(4):450-64. Epub 2015/12/19.

70. Borgmann H, Mager R, Salem J, Brundl J, Kunath F, Thomas C, Haferkamp A, Tsaur I. Robotic Prostatectomy on the Web: A Cross-Sectional Qualitative Assessment. *Clinical genitourinary cancer*. 2015. Epub 2016/01/30. doi: 10.1016/j.clgc.2015.12.020. PubMed PMID: 26348661.
71. Ellimoottil C, Polcari A, Kadlec A, Gupta G. Readability of websites containing information about prostate cancer treatment options. *The Journal of urology*. 2012;188(6):2171-5. Epub 2012/10/23. doi:10.1016/j.juro.2012.07.105. PubMed PMID: 21953578.
72. Ogah I, Wassersug RJ. How reliable are "reputable sources" for medical information on the Internet? The case of hormonal therapy to treat prostate cancer. *Urologic oncology*. 2013;31(8):1546-52. Epub 2012/11/13. doi: 10.1016/j.urolonc.2012.08.003. PubMed PMID: 23930444.
73. Sadowski DJ, Ellimoottil CS, Tejwani A, Gorbonos A. Proton therapy for prostate cancer online: patient education or marketing? *The Canadian journal of urology*. 2013;20(6):7015-20. Epub 2013/12/18. PubMed PMID: 23141782.
74. Berry DL, Halpenny B, Hong F, Wolpin S, Lober WB, Russell KJ, Ellis WJ, Govindarajulu U, Bosco J, Davison BJ, Bennett G, Terris MK, Barsevick A, Lin DW, Yang CC, Swanson G. The Personal Patient Profile-Prostate decision support for men with localized prostate cancer: A multi-center randomized trial. *Urologic Oncology: Seminars and Original Investigations*. 2013;31(7):1012-21. doi: http://dx.doi.org/10.1016/j.urolonc.2011.10.004.
75. Davison BJ, Szafron M, Gutwin C, Visvanathan K. Using a web-based decision support intervention to facilitate patient-physician communication at prostate cancer treatment discussions. *Canadian Oncology Nursing Journal*. 2014;24(4):241-7.
76. Flynn D, van Schaik P, van Wersch A, Ahmed T, Chadwick D. The utility of a multimedia education program for prostate cancer patients: a formative evaluation. *British journal of cancer*. 2004;91(5):855-60. Epub 2004/07/29. doi: 10.1038/sj.bjc.6602071. PubMed PMID: 15280915; PMCID: 2409882.
77. Davison BJ, Goldenberg SL, Gleave ME, Degner LF. Provision of individualized information to men and their partners to facilitate treatment decision making in prostate cancer. *Oncology nursing forum*. 2003;30(1):107-14. Epub 2003/01/08. doi: 10.1188/03.ONF.107-114 [doi]. PubMed PMID: 12515988.
78. Bender JL, Yue RY, To MJ, Deacken L, Jadad AR. A lot of action, but not in the right direction: systematic review and content analysis of smartphone applications for the prevention, detection, and management of cancer. *Journal of medical Internet research*. 2013;15(12):e287. Epub 2013/12/25. doi: 10.2196/jmir.2661; PMCID: PMC3875901.
79. Martire LM, Schulz R, Helgeson VS, Small BJ, Saghabi EM. Review and meta-analysis of couple-oriented interventions for chronic illness. *Annals of behavioral medicine : a publication of the Society of Behavioral Medicine*. 2010;40(3):325-42. Epub 2010/08/11. doi: 10.1007/s12160-010-9216-2. PubMed PMID: 20697859.
80. Franek J. Self-management support interventions for persons with chronic disease: an evidence-based analysis. *Ontario health technology assessment series*. 2013;13(9):1-60. Epub 2013/11/07. PubMed PMID: 22769228; PMCID: PMC3814807.
81. Li Q, Loke AY. A systematic review of spousal couple-based intervention studies for couples coping with cancer: direction for the development of interventions. *Psycho-oncology*. 2014;23(7):731-9. Epub 2014/04/12. doi:10.1002/pon.3535. PubMed PMID: 24279379.
82. Regan TW, Lambert SD, Girgis A, Kelly B, Kayser K, Turner J. Do couple-based interventions make a difference for couples affected by cancer?: a systematic review. *BMC cancer*. 2012;12(1):279-. doi: 10.1186/1471-2407-12-279.
83. Deetjen U, Powell JA. Informational and emotional elements in online support groups: a Bayesian approach to large-scale content analysis. *Journal of the American Medical Informatics Association : JAMIA*. 2016. Epub 2016/02/26. doi: 10.1093/jamia/ocv190. PubMed PMID: 26541826.

84. Loiselle CG, Edgar L, Batist G, Lu J, Lauzier S. The impact of a multimedia informational intervention on psychosocial adjustment among individuals with newly diagnosed breast or prostate cancer: a feasibility study. *Patient education and counseling*. 2010;80(1):48-55. Epub 2009/10/27. doi: 10.1016/j.pec.2009.09.026.
85. Northouse L, Schafenacker A, Barr KL, Katapodi M, Yoon H, Brittain K, Song L, Ronis DL, An L. A tailored Web-based psychoeducational intervention for cancer patients and their family caregivers. *Cancer nursing*. 2014;37(5):321-30. Epub 2014/06/20. doi: 10.1097/ncc.0000000000000159; PMCID: Pmc4164300.
86. Porter LS, Pollak KI, Farrell D, Cooper M, Arnold RM, Jeffreys AS, Tulskey JA. Development and implementation of an online program to improve how patients communicate emotional concerns to their oncology providers. *Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer*. 2015;23(10):2907-16. Epub 2015/02/24. doi: 10.1007/s00520-015-2656-2; PMCID: PMC4545743.
87. Head KJ, Noar SM, Fau - Iannarino NT, Iannarino NT, Fau - Grant Harrington N, Grant Harrington N. Efficacy of text messaging-based interventions for health promotion: a meta-analysis. *Social science & medicine (1982)*. 2013;97(1873-5347 (Electronic)):41-8.
88. Noar SM, Benac CF, Harris MS. Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin*. 2007;133(0033-2909 (Print)):673-93.
89. Noar SM, Black HG, Pierce LB. Efficacy of computer technology-based HIV prevention interventions: a metaanalysis. *AIDS*. 2009;23(1):107-15. doi: 10.1097/QAD.0b013e32831c5500.
90. Lustria MLA, Noar SM, Cortese J, Van Stee SK, Glueckauf RL, Lee J. A Meta-Analysis of Web-Delivered Tailored Health Behavior Change Interventions. *Journal of health communication*. 2013;18(9):1039-69. doi: 10.1080/10810730.2013.768727.
91. Schover LR, Canada AL, Yuan Y, Sui D, Neese L, Jenkins R, Rhodes MM. A randomized trial of internet-based versus traditional sexual counseling for couples after localized prostate cancer treatment. *Cancer*. 2012;118(2):500-9. Epub 2011/09/29. doi: 10.1002/cncr.26308. PubMed PMID: 21953578.
92. Goode PS, Burgio KL, Johnson TM, 2nd, Clay OJ, Roth DL, Markland AD, Burkhardt JH, Issa MM, Lloyd LK. Behavioral therapy with or without biofeedback and pelvic floor electrical stimulation for persistent postprostatectomy incontinence: a randomized controlled trial. *JAMA : the journal of the American Medical Association*. 2011;305(2):151-9. doi: 10.1001/jama.2010.1972; 10.1001/jama.2010.1972.
93. Badger TA, Segrin C, Figueredo AJ, Harrington J, Sheppard K, Passalacqua S, Pasvogel A, Bishop M. Who benefits from a psychosocial counselling versus educational intervention to improve psychological quality of life in prostate cancer survivors? *Psychology & health*. 2012. Epub 2012/10/11. doi: 10.1080/08870446.2012.731058. PubMed PMID: 23045995.
94. Digital Readiness Gaps [Internet]. Pew Research Center. 2016. Available from: <http://www.pewinternet.org/2016/09/20/digital-readiness-gaps/>.
95. Zickuhr K, Madden M. Older Adults and Internet Use. Pew Research Center's Internet & American Life Project: Pew Internet & American Life Project; 2012.
96. Older adults and technology use [Internet]. Pew Research Center. 2014. Available from: <http://www.pewinternet.org/2014/04/03/older-adults-and-technology-use/>.
97. Americans' Internet Access: 2000-2015 [Internet]. Pew Research Center. 2016. Available from: <http://www.pewinternet.org/2015/06/26/americans-internet-access-2000-2015/>.
98. Redeker NS, Anderson R, Bakken S, Corwin E, Docherty S, Dorsey SG, Heitkemper M, McCloskey DJ, Moore S, Pullen C, Rapkin B, Schiffman R, Waldrop-Valverde D, Grady P. Advancing Symptom Science Through Use of Common Data Elements. *J Nurs Scholarsh*. 2015;47(5):379-88. Epub 2015/08/08. doi: 10.1111/jnu.12155. PubMed PMID: 26250061; PMCID: PMC4618317.

99. Song L, Northouse L, Mood D, Ronis D, Braun T, Cimprich B. Using Multilevel Modeling to Analyze a Longitudinal Study of Couples' QOL and Related Factors in Prostate Cancer. *Quality of Life Research*.2011;20(3):371-81. doi: 10.1007/s11136-010-9753-y. PMCID: PMC3888242
100. Song L, Northouse LL, Zhang L, Braun TM, Cimprich B, Ronis DL, Mood DW. Study of dyadic communication in couples managing prostate cancer: a longitudinal perspective. *Psycho-oncology*. 2010;21(1):72-81. Epub 2010/10/23. doi: 10.1002/pon.1861. PubMed PMID: 20967920. PMCID: PMC3875561
101. Northouse LL, Song L. Cancer and caregiver issues. In: Gobel BH, Wujcik D, Yarbro CH, editors. *Cancer nursing : principles and practice*. Sudbury, Mass.: Jones and Bartlett Publishers; 2011.
102. Rini C, Manne S, DuHamel K, Austin J, Ostroff J, Boulad F, Parsons SK, Martini R, Williams SE, Mee L, Sexson S, Redd WH. Social support from family and friends as a buffer of low spousal support among mothers of critically ill children: A multilevel modeling approach. *Health Psychol*. 2008;27(5):593-603. Epub 2008/10/01. doi: 2008-13168-011 [pii] 10.1037/0278-6133.27.5.593 [doi]. PubMed PMID: 18823186.
103. Gallo MF, Macaluso M, Warner L, Fleenor ME, Hook EW, 3rd, Brill I, Weaver MA. Bacterial vaginosis, gonorrhea, and chlamydial infection among women attending a sexually transmitted disease clinic: a longitudinal analysis of possible causal links. *Annals of epidemiology*. 2012;22(3):213-20. Epub 2011/12/24. doi: 10.1016/j.annepidem.2011.11.005.
104. Symes Y, Song L, Heineman RG, Barbosa BD, Tatum K, Greene G, Weaver M, Chen RC. Involvement in Decision Making and Satisfaction With Treatment Among Partners of Patients With Newly Diagnosed Localized Prostate Cancer. *Oncology nursing forum*. 2015;42(6):672-9. Epub 2015/10/22. doi: 10.1188/15.onf.672-679. PubMed PMID: 26488835. PMCID: PMC4856471
105. Yeh CH, Chiang YC, Lin L, Yang CP, Chien LC, Weaver MA, Chuang HL. Clinical factors associated with fatigue over time in paediatric oncology patients receiving chemotherapy. *British journal of cancer*. 2008;99(1):23-9. Epub 2008/06/26. doi: 10.1038/sj.bjc.6604434; PMCID: PMC2453020.
106. Northouse LL, Katapodi MC, Song L, Zhang L, Mood DW. Interventions with family caregivers of cancer patients: meta-analysis of randomized trials. *CA Cancer J Clin*. 2010;60(5):317-39. Epub 2010/08/17. doi: 10.3322/caac.20081. PubMed PMID: 20709946; PMCID: 2946584.
107. Northouse LL, Mood DW, Schafenacker A, Kalemkerian G, Zalupski M, Lorusso P, Hayes DF, Hussain M, Ruckdeschel J, Fendrick AM, Trask PC, Ronis DL, Kershaw T. Randomized clinical trial of a brief and extensive dyadic intervention for advanced cancer patients and their family caregivers. *Psycho-oncology*. 2012. Epub 2012/02/01. doi: 10.1002/pon.3036. PubMed PMID: 22290823; PMCID: 3387514.
108. Rini C, Laws C, Austin J, DuHamel K, Markarian Y, Burkhalter J, Labay L, Redd WH. Peer mentoring and survivors' stories for cancer patients: positive effects and some cautionary notes. *Journal of clinical oncology: official journal of the American Society of Clinical Oncology*. 2007;25(1):163-6. Epub 2006/12/30. doi: 25/1/163 [pii]10.1200/JCO.2006.08.8567 [doi]. PubMed PMID: 17194913.
109. Song L, Ji Y, Nielsen ME. Quality of life and health status among prostate cancer survivors and noncancer population controls. *Urology*. 2014;83(3):658-63. Epub 2014/03/04. doi: 10.1016/j.urology.2013.12.009. PubMed PMID: 24581528; PMCID: PMC3947555.
110. Rini C, Porter, L. S., Somers, T. J., McKee, D. C., & Keefe, F. J. . Retaining Critical Therapeutic Elements of Behavioral Interventions Translated For Delivery via the Internet: Recommendations and an Example Using Pain Coping Skills Training. *Journal of Medical Internet Research (JMIR)*. 2014 16(12):e245. doi: 10.2196/jmir.3374.

111. Palmer MH, Fogarty LA, Somerfield MR, Powel LL. Incontinence after prostatectomy: coping with incontinence after prostate cancer surgery. *Oncology nursing forum*. 2003;30(2):229-38. Epub 2003/04/15. doi: 10.1188/03.onf.229-238.
112. Palmer MH, Athanasopoulos A, Lee KS, Takeda M, Wyndaele JJ. Sociocultural and environmental influences on bladder health. *International journal of clinical practice*. 2012;66(12):1132-8. Epub 2012/11/21. doi: 10.1111/ijcp.12029. PubMed PMID: 22343180.
113. Keyserling TC, Samuel-Hodge CD, Pitts SJ, Garcia BA, Johnston LF, Gizlice Z, Miller CL, Braxton DF, Evenson KR, Smith JC, Davis GB, Quenum EL, Elliott NTM, Gross MD, Ammerman AS. A Community-Based Lifestyle and Weight Loss Intervention Promoting a Mediterranean-Style Diet Pattern evaluated in the Stroke Belt of North Carolina: the Heart Healthy Lenoir Study (To be published).
114. Pitts SB, Vu MB, Garcia BA, McGuirt JT, Braxton D, Hengel CE, Huff JV, Keyserling TC, Ammerman AS. A community assessment to inform a multilevel intervention to reduce cardiovascular disease risk and risk disparities in a rural community. *Fam Community Health*. 2013;36(2):135-46. Epub 2013/03/05. doi: 10.1097/FCH.0b013e31828212be. PubMed PMID: 23455684; PMCID: PMC4155752.
115. Chen RC, Chang P, Vetter RJ, Lukka H, Stokes WA, Sanda MG, Watkins-Bruner D, Reeve BB, Sandler HM. Recommended patient-reported core set of symptoms to measure in prostate cancer treatment trials. *Journal of the National Cancer Institute*. 2014;106(7). Epub 2014/07/10. doi: 10.1093/jnci/dju132. PubMed PMID: 25006192.
116. De Gagne JC, Park S, So A, Wu B, Palmer MH, McConnell ES. A urinary incontinence continuing education online course for community health nurses in South Korea. *Journal of continuing education in nursing*. 2015;46(4):171-8. Epub 2015/04/10. doi: 10.3928/00220124-20150320-02.
117. Barone MA, Awori QD, Li PS, Simba RO, Weaver MA, Okech JO, Aduda AO, Cherutich P, Muraguri N, Wekesa JM, Nyanchoka J, Perchal P, Masson P, Lee R, Goldstein M, Kioko J, Lusi O, Sokal DC. Randomized trial of the Shang Ring for adult male circumcision with removal at one to three weeks: delayed removal leads to detachment. *Journal of acquired immune deficiency syndromes (1999)*. 2012;60(3):e82-9. Epub 2012/02/22. doi:10.1097/QAI.0b013e31824ea1f2. PubMed PMID: 12692657.
118. Raymond EG, Weaver MA, Louie KS, Dean G, Porsch L, Lichtenberg ES, Ali R, Arnesen M. Prophylactic compared with therapeutic ibuprofen analgesia in first-trimester medical abortion: a randomized controlled trial. *Obstetrics and gynecology*. 2013;122(3):558-64. Epub 2013/08/08. doi: 10.1097/AOG.0b013e31829d5a33. PubMed PMID: 23163494.
119. Chen R, Carpenter W, Kim M, Hendrix L, Agans R, Meyer A, Hoffmeyer A, Reeve B, Nielsen M, Usinger D, Strigo T, Jackman A, Anderson M, PA. G. Design of the North Carolina Prostate Cancer Comparative Effectiveness & Survivorship Study (NC ProCESS). *J Comparat Effect Res*. 2014;4(1):3-9.
120. Song L, Chen RC, Bensen JT, Knafl GJ, Nielsen ME, Farnan L, Wallen EM, Mishel M, Pruthi RS, Mohler JL, Godley PA. Who makes the decision regarding the treatment of clinically localized prostate cancer--the patient or physician?: results from a population-based study. *Cancer*. 2013;119(2):421-8. Epub 2012/07/13. doi: 10.1002/cncr.27738. PMCID: N/A
121. Song L, Bensen JT, Zimmer C, Sleath B, Blackard B, Fonham E, Su LJ, Brennan CS, Mohler JL, Mishel M. Patient-health care provider communication among patients with newly diagnosed prostate cancer: findings from a population-based survey. *Patient education and counseling*. 2013;91(1):79-84. Epub 2013/01/22. doi: 10.1016/j.pec.2012.12.002. PubMed PMID: 23332967. PMCID: PMC4238380.
122. Song L, Tatum K, Greene G, Chen RC. eHealth Literacy And Partner Involvement In Treatment Decision-Making For Newly Diagnosed Localized Prostate Cancer. *Oncology nursing forum*. in Press. PMCID: N/A.

123. Keyserling TC, Ammerman AS, Samuel-Hodge CD, Ingram AF, Skelly AH, Elasy TA, Johnston LF, Cole AS, Henriquez-Roldan CF. A diabetes management program for African American women with type 2 diabetes. *The Diabetes educator*. 2000;26(5):796-805. Epub 2001/01/05.
124. Samuel-Hodge CD, Headen SW, Skelly AH, Ingram AF, Keyserling TC, Jackson EJ, Ammerman AS, Elasy TA. Influences on day-to-day self-management of type 2 diabetes among African-American women: spirituality, the multi-caregiver role, and other social context factors. *Diabetes care*. 2000;23(7):928-33. Epub 2000/07/15.
125. Keyserling TC, Samuel-Hodge CD, Ammerman AS, Ainsworth BE, Henriquez-Roldan CF, Elasy TA, Skelly AH, Johnston LF, Bangdiwala SI. A randomized trial of an intervention to improve self-care behaviors of African-American women with type 2 diabetes: impact on physical activity. *Diabetes care*. 2002;25(9):1576-83. Epub: 2002/08/28. PubMed PMID: 10895842.
126. Pullen C, Noble Walker S. Midlife and older rural women's adherence to U.S. Dietary Guidelines across stages of change in healthy eating. *Public health nursing (Boston, Mass)*. 2002;19(3):170-8. Epub 2002/04/23.
127. Samuel-Hodge CD, DeVellis RF, Ammerman A, Keyserling TC, Elasy TA. Reliability and validity of a measure of perceived diabetes and dietary competence in African American women with type 2 diabetes. *The Diabetes educator*. 2002;28(6):979-88. Epub 2003/01/16. PubMed PMID: 11967102.
128. Samuel-Hodge CD, Fernandez LM, Henriquez-Roldan CF, Johnston LF, Keyserling TC. A comparison of self-reported energy intake with total energy expenditure estimated by accelerometer and basal metabolic rate in African-American women with type 2 diabetes. *Diabetes care*. 2004;27(3):663-9. Epub 2004/02/28. PubMed PMID: 12196430.
129. Jilcott SB, Macon ML, Rosamond WD, Garcia BA, Jenkins LK, Cannon PM, Townsend CR, Tawney KW, Keyserling TC, Will JC, Ammerman AS. Implementing the WISEWOMAN program in local health departments: staff attitudes, beliefs, and perceived barriers. *Journal of women's health (2002)*. 2004;13(5):598-606. Epub 2004/07/20. doi: 10.1089/1540999041281089. PubMed PMID: 12526638.
130. Jilcott SB, Keyserling TC, Samuel-Hodge CD, Johnston LF, Gross MD, Ammerman AS. Validation of a brief dietary assessment to guide counseling for cardiovascular disease risk reduction in an underserved population. *Journal of the American Dietetic Association*. 2007;107(2):246-55. Epub 2007/01/30. doi: 10.1016/j.jada.2006.11.006. PubMed PMID: 17258961.
131. Keyserling TC, Samuel Hodge CD, Jilcott SB, Johnston LF, Garcia BA, Gizlice Z, Gross MD, Savinon CE, Bangdiwala SI, Will JC, Farris RP, Trost S, Ammerman AS. Randomized trial of a clinic-based, communitysupported, lifestyle intervention to improve physical activity and diet: the North Carolina enhanced WISEWOMAN project. *Preventive medicine*. 2008;46(6):499-510. Epub 2008/04/09. doi: 10.1016/j.ypmed.2008.02.011. PubMed PMID: 11140007.
132. Samuel-Hodge CD, Keyserling TC, Park S, Johnston LF, Gizlice Z, Bangdiwala SI. A randomized trial of a church-based diabetes self-management program for African Americans with type 2 diabetes. *The Diabetes educator*. 2009;35(3):439-54. Epub 2009/04/23. doi: 10.1177/0145721709333270. PubMed PMID: 14988282.
133. Samuel-Hodge CD, Garcia BA, Johnston LF, Kraschnewski JL, Gustafson AA, Norwood AF, Glasgow RE, Gold AD, Graham JW, Evenson KR, Stearns SC, Gizlice Z, Keyserling TC. Rationale, design, and sample characteristics of a practical randomized trial to assess a weight loss intervention for low-income women: the Weight-Wise II Program. *Contemporary clinical trials*. 2012;33(1):93-103. Epub 2011/09/21. doi: 10.1016/j.cct.2011.08.009. PubMed PMID: 21930244.
134. Samuel-Hodge CD, Garcia BA, Johnston LF, Gizlice Z, Ni A, Cai J, Kraschnewski JL, Gustafson AA, Norwood AF, Glasgow RE, Gold AD, Graham JW, Evenson KR, Trost S,

Keyserling TC. Translation of a behavioral weight loss intervention for mid-life, low-income women in local health departments. *Obesity*. 2013;21(9):1764-

73. Epub 2013/02/15. doi: 10.1002/oby.20317. PubMed PMID: 19383882.

135. Keyserling TC, Sheridan SL, Draeger LB, Finkelstein EA, Gizlice Z, Kruger E, Johnston LF, Sloane PD, Samuel-Hodge C, Evenson KR, Gross MD, Donahue KE, Pignone MP, Vu MB, Steinbacher EA, Weiner BJ, Bangdiwala SI, Ammerman AS. A comparison of live counseling with a web-based lifestyle and medication intervention to reduce coronary heart disease risk: a randomized clinical trial. *JAMA internal medicine*. 2014;174(7):1144-57. Epub 2014/05/28. doi: 10.1001/jamainternmed.2014.1984. PubMed PMID: 24861959; PMCID: PMC4142754.
136. Estruch R, Ros E, Martinez-Gonzalez MA. Mediterranean diet for primary prevention of cardiovascular disease. *The New England journal of medicine*. 2013;369(7):676-7. Epub 2013/08/16. doi: 10.1056/NEJMc1306659. PubMed PMID: 18394692.
137. Estruch R, Salas-Salvado J. "Towards an even healthier Mediterranean diet". *Nutrition, metabolism, and cardiovascular diseases : NMCD*. 2013;23(12):1163-6. Epub 2013/11/23. doi: 10.1016/j.numecd.2013.09.003. PubMed PMID: 23944307.
138. Leon AC, Davis LL, Kraemer HC. The role and interpretation of pilot studies in clinical research. *Journal of psychiatric research*. 2011;45(5):626-9. Epub 2010/11/03. doi: 10.1016/j.jpsychires.2010.10.008; PMCID: PMC3081994.
139. Lazarus RS, Folkman S. *Stress, Appraisal, and Coping*. New York: Springer Publishing Company; 1984.
140. Bavelas JB, Segal L. Family systems theory: Background and implications. *Journal of Communication*. 1982;32(3):99.
141. Bowen M. *Family therapy in clinical practice*. New York: Jason Aronson; 1978.
142. Fingerman KL, Bermann E. Applications of family systems theory to the study of adulthood. *International Journal of Aging & Human Development*. 2000;51:5-29. PubMed PMID: 11130612.
143. Galvin KM, Brommel BJ. *Family communication: cohesion and change*. Second ed. Glenview, Illinois: Scott, Foresman and Company; 1986.
144. Badr H, Taylor CLC. Sexual dysfunction and spousal communication in couples coping with prostate cancer. *Psycho-oncology*. 2009;18(7):735-46. doi: 10.1002/pon.1449. PubMed PMID: 42962449.
145. Boehmer U, Clark JA. Communication about prostate cancer between men and their wives. *Journal of Family Practice*. 2001;50:226-31. PubMed PMID: 11252211.
146. Manne S, Badr H, Zaidler T, Nelson C, Kissane D. Cancer-related communication, relationship intimacy, and psychological distress among couples coping with localized prostate cancer. *Journal of cancer survivorship: research and practice*. 2010;4(1):74-85. PubMed PMID: MEDLINE:19967408.
147. Pfeiffer EA. short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *J Am Geriatr Soc*. 1975;23(10):433-41.
148. Kazer MW, Harden J, Burke M, Sanda MG, Hardy J, Bailey DE. The experiences of unpartnered men with prostate cancer: a qualitative analysis. *Journal of cancer survivorship : research and practice*. 2010. Epub 2010/11/30. doi: 10.1007/s11764-010-0157-3 [doi]. PubMed PMID: 21113818.
149. Jacobs BL, Zhang Y, Schroeck FR, Skolarus TA, Wei JT, Montie JE, Gilbert SM, Strobe SA, Dunn RL, Miller DC, Hollenbeck BK. Use of advanced treatment technologies among men at low risk of dying from prostate cancer. *Jama*. 2013;309(24):2587-95. Epub 2013/06/27. doi: 10.1001/jama.2013.6882. PubMed PMID: 23800935; PMCID: PMC3857348.
150. Kapoor DA, Zimberg SH, Ohrin LM, Underwood W, 3rd, Olsson CA. Utilization trends in prostate cancer therapy. *The Journal of urology*. 2011;186(3):860-4. Epub 2011/07/27. doi: 10.1016/j.juro.2011.04.075.

151. Mahmood U, Levy LB, Nguyen PL, Lee AK, Kuban DA, Hoffman KE. Current Clinical Presentation and Treatment of Localized Prostate Cancer in the United States. *The Journal of urology*. 2014. Epub 2014/06/17. doi: 10.1016/j.juro.2014.06.017. PubMed PMID: 24931803.
152. Reeve BB, Stover AM, Jensen RE, Chen RC, Taylor KL, Clauser SB, Collins SP, Potosky AL. Impact of diagnosis and treatment of clinically localized prostate cancer on health-related quality of life for older Americans: a population-based study. *Cancer*. 2012;118(22):5679-87. Epub 2012/05/01. doi: 10.1002/cncr.27578. PubMed PMID: 22544633; PMCID: Pmc3410051.
153. Yabroff KR, Lamont EB, Mariotto A, Warren JL, Topor M, Meekins A, Brown ML. Cost of care for elderly cancer patients in the United States. *Journal of the National Cancer Institute*. 2009;100(9):630-41. Epub 2008/05/01. doi: 10.1093/jnci/djn103. PubMed PMID: 18445825.
154. Rhee Y, Degenholtz Hb Fau - Lo Sasso AT, Lo Sasso At Fau - Emanuel LL, Emanuel LL. Estimating the quantity and economic value of family caregiving for community-dwelling older persons in the last year of life. *J Am Geriatr Soc*. 2009;57(9):1654-9. . doi: doi: 10.1111/j.1532-5415.2009.02390.x.
155. Harrington CB, Hansen JA, Moskowitz M, Todd BL, Feuerstein M. It's not over when it's over: long-term symptoms in cancer survivors--a systematic review. *Int J Psychiatry Med*. 2010;40(2):163-81. Epub 2010/09/21. PubMed PMID: 20848873.
156. Cleeland CS, Zhao F Fau - Chang VT, Chang Vt Fau - Sloan JA, Sloan Ja Fau - O'Mara AM, O'Mara Am Fau - Gilman PB, Gilman Pb Fau - Weiss M, Weiss M Fau - Mendoza TR, Mendoza Tr Fau - Lee J-W, Lee Jw Fau - Fisch MJ, Fisch MJ. The symptom burden of cancer: Evidence for a core set of cancer-related and treatmentrelated symptoms from the Eastern Cooperative Oncology Group Symptom Outcomes and Practice Patterns study. *Cancer*. 2013;119(24):4333-40. doi: D - NLM: NIHMS526642D - NLM: PMC3860266 OTO - NOTNLM.
157. Kozachik SL, Bandeen-Roche K. Predictors of patterns of pain, fatigue, and insomnia during the first year after a cancer diagnosis in the elderly. *Cancer nursing*. 2008;31(5):334-44. doi: 10.1097/01.NCC.0000305769.27227.67.
158. van Dessel N, den Boeft M, van der Wouden JC, Kleinstauber M, Leone SS, Terluin B, Numans ME, van der Horst HE, van Marwijk H. Non-pharmacological interventions for somatoform disorders and medically unexplained physical symptoms (MUPS) in adults. *The Cochrane database of systematic reviews*. 2014;11:CD011142. Epub 2014/11/02. doi: 10.1002/14651858.CD011142.pub2.
159. Mayo-Wilson E, Montgomery P. Media-delivered cognitive behavioural therapy and behavioural therapy (selfhelp) for anxiety disorders in adults. *The Cochrane database of systematic reviews*. 2013;9:CD005330. Epub 2013/09/11. doi: 10.1002/14651858.CD005330.pub4.
160. Bellg AJ, Borrelli B, Resnick B, Hecht J, Minicucci DS, Ory M, Ogedegbe G, Orwig D, Ernst D, Czajkowski S. Enhancing treatment fidelity in health behavior change studies: best practices and recommendations from the NIH Behavior Change Consortium. *Health Psychol*. 2004;23(5):443-51. Epub 2004/09/16. doi: 10.1037/0278-6133.23.5.443.
161. Halder AK, Tiro JA, Glassman B, Rakowski W, Fernandez ME, Perez CA, Vernon SW. Lessons learned from developing a tailored print intervention: a guide for practitioners and researchers new to tailoring. *Health Promot Pract*. 2008;9(3):281-8. Epub 2006/07/11. doi: 10.1177/1524839906289042.
162. Beck C, McSweeney JC, Richards KC, Roberson PK, Tsai PF, Souder E. Challenges in tailored intervention research. *Nurs Outlook*. 2010;58(2):104-10. Epub 2010/04/07. doi: 10.1016/j.outlook.2009.10.004; PMCID: Pmc3136169.
163. Eaton LH, Doorenbos AZ, Schmitz KL, Carpenter KM, McGregor BA. Establishing treatment fidelity in a webbased behavioral intervention study. *Nursing research*. 2011;60(6):430-5. Epub 2011/11/04. doi: 10.1097/NNR.0b013e31823386aa; PMCID: Pmc3235349.

164. Marcotte E. Responsive Web Design. A List Apart 2010.
165. Berkman N, DeWalt D, Pignone M, Sheridan S, Lohr K, Lux L, Sutton S, Swinson T, Bonito A. Literacy and Health Outcomes. Evidence Report/Technology Assessment No. 87 (Prepared by RTI International–University of North Carolina Evidence-based Practice Center under Contract No. 290-02-0016). In: Department of Health and Human Services U, editor. Rockville, MD: Agency for Healthcare Research and Quality; 2004.
166. Sheridan SL, Halpern DJ, Viera AJ, Viera AJ, Berkman ND, Berkman ND, Donahue KE, Donahue KE, Crotty K, Crotty K. Interventions for individuals with low health literacy: a systematic review. *Journal of health communication*. 2011;16(6:sup3)(1087-0415 (Electronic)):30-54.
167. Kountz DS. Strategies for improving low health literacy. *Postgrad Med*. 2009;121(5):171-7. doi: 10.3810/pgm.2009.09.2065.
168. Abraham C, Michie S. A taxonomy of behavior change techniques used in interventions. *Health Psychology*. 2008;273(0278-6133 (Print)):379-87.
169. Michie S, Richardson M, Johnston M, Johnston M, Abraham C, Abraham C, Francis J, Francis J, Hardeman W, Hardeman W, Eccles MP, Eccles MP, Cane J, Cane J, Wood CE, Wood CE. The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building an international consensus for the reporting of behavior change interventions. *Annals of behavioral medicine : a publication of the Society of Behavioral Medicine*. 2013;46(1)(1532-4796 (Electronic)):81-95.
170. Fisher EB, Ayala GX, Ibarra L, Cherrington AL, Elder JP, Tang TS, Heisler M, Safford MM, Simmons D. Contributions of Peer Support to Health, Health Care, and Prevention: Papers from Peers for Progress. *ANNALS OF FAMILY MEDICINE*. 2015;13(1544-1717 (Electronic)). doi: D - NLM: PMC4648132. EDAT- 2015/08/26 06:00 MHDA- 2015/08/26 06:00 CRDT- 2015/08/26 06:00 PMCR- 2016/02/01 00:00 AID - 13/Suppl_1/S2 [pii] AID - 10.1370/afm.1852 [doi] PST - ppublish.
171. Fisher EB, Mm C, Parada H, Robinette JB, Tang PY, Urlaub DM, Castillo C, Guzman-Corrales LM, Hino S, Hunter J, Katz AW, Symes YR, Worley HP, Xu C. Peer support in health care and prevention: cultural, organizational, and dissemination issues. *Annu Rev Public Health*. 2014;35:363-83. doi: 10.1146/annurevpublhealth-032013-182450.
172. Rhodes SD, Hergenrather KC, Duncan J, Vissman AT, Miller C, Wilkin AM, Stowers J, Eng E. A Pilot Intervention Utilizing Internet Chat Rooms to Prevent HIV Risk Behaviors Among Men Who Have Sex with Men. *Public Health Reports*. 2010;125(Suppl 1):29-37. PubMed PMID: PMC2788406.
173. Betts K. Lost in Translation: Importance of Effective Communication in Online Education. *Journal of Distance Learning Administration*. 2009;XII(II).
174. Berry DL, Ellis WJ, Woods NF, Schwien C, Mullen KH, Yang C. Treatment decision-making by men with localized prostate cancer: the influence of personal factors. *Urologic oncology*. 2003;21(2):93-100. Epub 2003/07/15. PubMed PMID: 12856636.
175. Tariman JD, Berry DL, Cochrane B, Doorenbos A, Schepp K. Preferred and actual participation roles during health care decision making in persons with cancer: a systematic review. *Ann Oncol*. 2010;21(6):1145-51. Epub 2009/11/27. doi: mdp534 [pii]10.1093/annonc/mdp534 [doi]. PubMed PMID: 19940010.
176. Evans S, Metcalfe C, Ibrahim F, Persad R, Ben-Shlomo Y. Investigating Black-White differences in prostate cancer prognosis: A systematic review and meta-analysis. *Int J Cancer*. 2008;123(2):430-5. Epub 2008/05/03. doi: 10.1002/ijc.23500 [doi]. PubMed PMID: 18452170.
177. Rivers BM, August EM, Gwede CK, Hart A, Jr., Donovan KA, Pow-Sang JM, Quinn GP. Psychosocial issues related to sexual functioning among African-American prostate cancer

survivors and their spouses. *Psychooncology*. 2011;20(1):106-10. Epub 2010/02/27. doi: 10.1002/pon.1711 [doi]. PubMed PMID: 20187071.

178. Jenkins R, Schover LR, Fouladi RT, Warneke C, Neese L, Klein EA, Zippe C, Kupelian P. Sexuality and healthrelated quality of life after prostate cancer in African-American and white men treated for localized disease. *J Sex Marital Ther*. 2004;30(2):79-93. Epub 2004/01/27. doi: MWAJ0E571BPVRTPB [pii]. PubMed PMID: 14742098.
179. American Cancer Society. *Cancer Facts & Figures 2014*. Atlanta,2014.
180. American Cancer Society. *Cancer Facts & Figures for African Americans 2009-2010*2009.
181. Office of Disease Prevention and Health Promotion. National Action Plan to Improve Health Literacy. In: U.S. Department of Health and Human Services, editor. Washington DC2010.
182. Institute of Medicine. *Health Literacy: A Prescription to End Confusion*. In: Institute of Medicine of National Academies CoHL, Board on Neuroscience and Behavioral Health editor. 2004.
183. Agency for Healthcare Research and Quality (AHRQ). *Health Literacy Measurement Tools (Revised)*. Rockville, MD. 2016 [cited 2016 Nov 19]. Available from: <http://www.ahrq.gov/professionals/quality-patient-safety/qualityresources/tools/literacy/index.html>.
184. Song L, Mishel M, Bensen JT, Chen RC, Knafl GJ, Blackard B, Farnan L, Fontham E, Su LJ, Brennan CS, Mohler JL, Godley PA. How does health literacy affect quality of life among men with newly diagnosed clinically localized prostate cancer? Findings from the North Carolina-Louisiana Prostate Cancer Project (PCaP). *Cancer*. 2012;118(15):3842-51. Epub 2011/12/20. doi: 10.1002/cncr.26713. PubMed PMID: 22180041. PMCID: N/A.
185. Martin LT, Ruder T, Escarce JJ, Ghosh-Dastidar B, Sherman D, Elliott M, Bird CE, Fremont A, Gasper C, Culbert A, Lurie N. Developing predictive models of health literacy. *Journal of general internal medicine*. 2009;24(11):1211-6. Epub 2009/09/18. doi: 10.1007/s11606-009-1105-7; PMCID: PMC2771237.
186. Nagler RH, Gray SW, Romantan A, Kelly BJ, DeMichele A, Armstrong K, Schwartz JS, Hornik RC. Differences in information seeking among breast, prostate, and colorectal cancer patients: results from a population-based survey. *Patient education and counseling*. 2010;81 Suppl:S54-62. Epub 2010/10/12. doi: 10.1016/j.pec.2010.09.010. PubMed PMID: 20934297; PMCID: 2993788.
187. Ritterband LM, Thorndike FP. The further rise of internet interventions. *Sleep*. 2012;35(6):737-8. Epub 2012/06/02. doi: 10.5665/sleep.1850; PMCID: Pmc3353057.
188. Cella D, Tulskey D, Gray G, Sarafian B, Linn E, Bonomi A, Silberman M, Yellen S, Winicour P, Brannon J, Eckberg K, Lloyd S, Purl S, Blendowski C, Goodman M, Barnicle M, Stewart I, McHale M, Bonomi P, Kaplan E, Taylor IV S, Thomas Jr. C, Harris J. The Functional Assessment of Cancer Therapy scale: development and validation of the general measure. *Journal of Clinical Oncology*. 1993;11:570-9. PubMed PMID: 8445433.
189. Esper P, Mo F, Chodak G, Sinner M, Cella D, Pienta KJ. Measuring quality of life in men with prostate cancer using the functional assessment of cancer therapy-prostate instrument. *Urology*. 1997;50(6):920-8. PubMed PMID: 9426724.
190. Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: Development and validation. *Journal of Chronic Diseases*. 1987;40(5):373-83. doi: [http://dx.doi.org/10.1016/0021-9681\(87\)90171-8](http://dx.doi.org/10.1016/0021-9681(87)90171-8).
191. Quan H, Li B, Couris CM, Fushimi K, Graham P, Hider P, Januel JM, Sundararajan V. Updating and validating the Charlson comorbidity index and score for risk adjustment in hospital discharge abstracts using data from 6 countries. *Am J Epidemiol*. 2011;173(6):676-82. Epub 2011/02/19. doi: 10.1093/aje/kwq433.
192. Amtmann D, Cook KF, Jensen MP, Chen WH, Choi S, Revicki D, Cella D, Rothrock N, Keefe F, Callahan L, Lai JS. Development of a PROMIS item bank to measure pain interference. *Pain*. 2010;150(1):173-82. Epub 2010/06/18. doi: 10.1016/j.pain.2010.04.025; PMCID: PMC2916053.

193. Keller S, Mangrum R, Yang M. Executive Summary of a Report by the PROMIS® Network Center: The Measurement of Fatigue in Rheumatoid Arthritis: Review and Identification of Gaps in Evidence.pdf icon Final Report: September 30, 2014. Washington, DC: American Institutes for Research, 2014.
194. Yu L, Buysse DJ, Germain A, Moul DE, Stover A, Dodds NE, Johnston KL, Pilkonis PA. Development of short forms from the PROMIS sleep disturbance and Sleep-Related Impairment item banks. *Behavioral sleep medicine*. 2011;10(1):6-24. Epub 2012/01/19. doi: 10.1080/15402002.2012.636266; PMID: PMC3261577.
195. Wagner LI, Schink J, Bass M, Patel S, Diaz MV, Rothrock N, Pearman T, Gershon R, Penedo FJ, Rosen S, Cella D. Bringing PROMIS to practice: brief and precise symptom screening in ambulatory cancer care. *Cancer*. 2015;121(6):927-34. Epub 2014/11/08. doi: 10.1002/cncr.29104; PMID: PMC4352124.
196. Cook KF, Jensen SE, Schalet BD, Beaumont JL, Amtmann D, Czajkowski S, Dewalt DA, Fries JF, Pilkonis PA, Reeve BB, Stone AA, Weinfurt KP, Cella D. PROMIS measures of pain, fatigue, negative affect, physical function, and social function demonstrate clinical validity across a range of chronic conditions. *Journal of clinical epidemiology*. 2016. Epub 2016/03/10. doi: 10.1016/j.jclinepi.2015.08.038.
197. Askew RL, Cook KF, Revicki DA, Cella D, Amtmann D. Evidence from diverse clinical populations supports clinical validity of PROMIS pain interference and pain behavior. *Journal of clinical epidemiology*. 2016. Epub 2016/03/05. doi: 10.1016/j.jclinepi.2015.08.035.
198. Schalet BD, Pilkonis PA, Yu L, Dodds N, Johnston KL, Yount S, Riley W, Cella D. Clinical validity of PROMIS Depression, Anxiety, and Anger across diverse clinical samples. *Journal of clinical epidemiology*. 2016. Epub 2016/03/05. doi: 10.1016/j.jclinepi.2015.08.036.
199. Spanier GL. Measuring dyadic adjustment: new scales for assessing the quality of marriage and similar dyads *Journal of Marriage and The Family* 1976;38:15-28.
200. Spanier GB, Thompson L. A Confirmatory Analysis of the Dyadic Adjustment Scale. *Journal of Marriage and Family*. 1982;44(3):731-8.
201. Sabourin S, Valois P, Lussier Y. Development and validation of a brief version of the dyadic adjustment scale with a nonparametric item analysis model. *Psychol Assess*. 2005;17(1):15-27. Epub 2005/03/17. doi: 10.1037/1040-3590.17.1.15.
202. McCubbin H, Thompson A, McCubbin MA. FILE: Family Inventory of Life Events and Changes. 1st ed. Madison, Wisconsin: University of Wisconsin Publishers; 1996.
203. Wei JT, Dunn RL, Litwin MS, Sandler HM, Sanda MG. Development and validation of the expanded prostate cancer index composite (EPIC) for comprehensive assessment of health-related quality of life in men with prostate cancer. *Urology*. 2000;56(6):899-905. PubMed PMID: 11113727.
204. Oberst M. Appraisal of Illness Scale: Manual for Use. Detroit MI: Wayne State University; 1991.
205. Oberst M. Appraisal of Caregiving Scale: Manual for Use. Detroit MI: Wayne State University, 1991.
206. Lewis FM. Family Home Visitation Study Final Report. Bethesda, MD: National Cancer Institute, National Institutes of Health, 1996.
207. PROMISE Instrumental Support Instruments [Internet]2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Instrumental Support Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS%20Instrumental%20Support%20Scoring%20Manual.pdf).
208. PROMISE Emotional Support Instruments [Internet]2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Instrumental Support Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS%20Emotional%20Support%20Instruments.pdf).
209. PROMISE Informational Support Instruments [Internet]2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Instrumental Support Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS%20Informational%20Support%20Instruments.pdf).

210. Sarason IGL, Henry M, Basham RB, Sarason BR. Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology*. 1983;44(1):127-39.
211. Sarason IG, Sarason BR, Shearin EN, Pierce GR. A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships*. 1987;4:497-510.
212. Carle AC, Riley W, Hays RD, Cella D. Confirmatory Factor Analysis of the Patient Reported Outcomes Measurement Information System (PROMIS) Adult Domain Framework Using Item Response Theory Scores. *Medical care*. 2015;53(10):894-900. Epub 2015/09/15. doi: 10.1097/mlr.0000000000000413; PMID: PMC4750392.
213. Sheridan SL, Draeger LB, Pignone MP, Sloane PD, Samuel-Hodge C, Finkelstein EA, Gizlice Z, Vu MB, Gitterman DP, Bangdiwala SI, Donahue KE, Evenson K, Ammerman AS, Keyserling TC. Designing and implementing a comparative effectiveness study of two strategies for delivering high quality CHD prevention: methods and participant characteristics for the Heart to Health study. *Contemporary clinical trials*. 2013;36(2):394-405. Epub 2013/08/07. doi: 10.1016/j.cct.2013.07.013. PubMed PMID: 23916919; PMID: PMC4115064.
214. Kraschnewski JL, Gold AD, Gizlice Z, Johnston LF, Garcia BA, Samuel-Hodge CD, Keyserling TC. Development and evaluation of a brief questionnaire to assess dietary fat quality in low-income overweight women in the southern United States. *Journal of nutrition education and behavior*. 2013;45(4):355-61. Epub 2013/01/24. doi: 10.1016/j.jneb.2012.10.008. PubMed PMID: 23340242.
215. Gardiner PA, Clark BK, Healy GN, Eakin EG, Winkler EA, Owen N. Measuring older adults' sedentary time: reliability, validity, and responsiveness. *Medicine and science in sports and exercise*. 2011;43(11):2127-33. Epub 2011/03/31. doi: 10.1249/MSS.0b013e31821b94f7. PubMed PMID: 21448077.
216. Van Cauwenberg J, Van Holle V, De Bourdeaudhuij I, Owen N, Deforche B. Older adults' reporting of specific sedentary behaviors: validity and reliability. *BMC public health*. 2014;14:734. Epub 2014/07/22. doi: 10.1186/1471-2458-14-734. PubMed PMID: 25042423; PMID: PMC4223385.
217. Davis FD. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Q*. 1989;13(3):319-40. doi: 10.2307/249008.
218. Brooke J. SUS: a "quick and dirty" usability scale. . In: Jordan PW, Thomas B, Weerdmeester BA, AL M, editors. *Usability Evaluation in Industry*. London: Taylor and Francis; 1996.
219. PROMISE Pain Interference Instrument [Internet]2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Instrumental Support Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS_Instrumental_Support_Scoring_Manual.pdf).
220. PROMISE Pain Intensity Instruments [Internet]2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Instrumental Support Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS_Instrumental_Support_Scoring_Manual.pdf).
221. PROMIS Fatigue Instruments [Internet]. PROMIS. 2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Depression Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS_Depression_Scoring_Manual.pdf).
222. PROMISE Sleep Disturbance Instruments [Internet]2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Instrumental Support Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS_Instrumental_Support_Scoring_Manual.pdf).
223. PROMIS anxiety instruments [Internet]. PROMIS. 2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Anxiety Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS_Anxiety_Scoring_Manual.pdf).
224. PROMIS Depression Instruments [Internet]. PROMIS. 2015 [cited April 12, 2016]. Available from: [https://www.assessmentcenter.net/documents/PROMIS Depression Scoring Manual.pdf](https://www.assessmentcenter.net/documents/PROMIS_Depression_Scoring_Manual.pdf).
225. Mellon S, Northouse LL, Weiss LK. A population-based study of the quality of life of cancer survivors and their family caregivers. *Cancer nursing*. 2006;29:120-31. PubMed PMID: 16565621.

226. Skolarus TA, Holmes-Rovner M, Northouse LL, Fagerlin A, Garlinghouse C, Demers RY, Rovner DR, Darwish-Yassine M, Wei JT. Primary care perspectives on prostate cancer survivorship: implications for improving quality of care. *Urologic oncology*. 2013;31(6):727-32. Epub 2011/07/22. doi: 10.1016/j.urolonc.2011.06.002; PMID: PMC3213312.
227. Movsas TZ, Yechieli R, Movsas B, Darwish-Yassine M. Partner's Perspective on Long-term Sexual Dysfunction After Prostate Cancer Treatment. *American journal of clinical oncology*. 2014. Epub 2014/04/02. doi: 10.1097/coc.0000000000000067.
228. Northouse LL, Rosset T, Phillips L, Mood DW, Schafenacker A, Kershaw T. Research with families facing cancer: The challenges of accrual and retention. *Research in Nursing & Health*. 2006;29:199-211.
229. Older Adults and Technology Use [Internet]2014. Available from: <http://www.pewinternet.org/2014/04/03/olderadults-and-technology-use/>.
230. The Smartphone Difference 2015. Available from: <http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/>.
231. Technology Device Ownership: 2015 [Internet]. Pew Research Center. 2015. Available from:<http://www.pewinternet.org/2015/10/29/technology-device-ownership-2015>.
232. Senn S. Testing for baseline balance in clinical trials. *Stat Med*. 1994;13(17):1715-26. Epub 1994/09/15.
233. Kelloway EKa. Using Mplus for structural equation modeling : a researcher's guide. Los Angeles: SAGE; 2015.
234. Bollen KA. Structural Equations with Latent Variables New York: John Wiley & Sons; 1989. 514 p.
235. Littell RC, Milliken GA, Stroup WW, Wolfinger RD, Schabenberger O. SAS for mixed models [electronic resource]. Littell RC, editor. Cary, N.C.: SAS Institute, Inc.; 2006.
236. Norman GR, Sloan JA, Wyrwich KW. Interpretation of changes in health-related quality of life: the remarkable universality of half a standard deviation. *Medical care*. 2003;41(5):582-92. Epub 2003/04/30. doi: 10.1097/01.mlr.0000062554.74615.4c.
237. (Holmes & Rahe, 1967).