Improving Maternal Health Outcomes in Developing and Under-Resourced Countries Through Women's Empowerment and Increased Spousal Involvement

by

Courtney Raymond

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Graduate Supervisory Committee:

Heather Ross, Chair
Laura Hosman
Susan Pepin

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ABSTRACT

The goal of this project was to create a quasi experimental study using an education module that teaches evidence-based practice methods. The theoretical frameworks used to create the educational content were the self-efficacy theory and the Health Belief Model. The evaluation methods used are based on the Kirkpatrick four level model. An education module was created to be culturally and regionally relevant to South Sudan and Malawi. The education module was designed to be part of the SolarSPELL Health: Nursing and Midwifery Library. This was done by performing a literature review, curating resources, creating the educational materials, creating learning scenarios, curating relevant belief scales, and integrating the content into the SolarSPELL Health: Nursing and Midwifery Library. The on ground implementation of the materials was not a part of this project, but instead is planned for future research. This project creates a foundation from which SolarSPELL Health can implement the resources at a future date. In the long term, the goal of implementing the experiment is to improve maternal mental and physical health outcomes in South Sudan and Malawi, both of which have extremely high rates of maternal mortality and morbidity.

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INTRODUCTION

SolarSPELL

SolarSPELL was founded in 2015 by Dr. Laura Hosman and Mr. Bruce Baikie. The organization is an initiative within Arizona State University and partnered with the School for the Future Innovation of Society (Hosman, 2019). The name SolarSPELL stands for Solar Powered Educational Learning Library. The original focus of SolarSPELL was community and primary school education. However, SolarSPELL has expanded their focus to include other, higher education projects such as the SolarSPELL Health: Nursing and Midwifery Library. All SolarSPELL libraries are offline, digital databases with resources that are specifically curated to be regionally and culturally relevant. SolarSPELL libraries are deployed to locations in developing and under-resourced communities.

Each SolarSPELL individual unit is designed to be both waterproof and weatherproof. These units are being deployed to remote areas that often experience severe weather, and SolarSPELL does not want these conditions to interfere with the students' ability to learn. A SolarSPELL unit consists of 1) a 10 Watt solar panel, 2) a polypropolyne plastic case, which houses: 3) a voltage regulator, 4) a battery, which stores power from the solar panel and gives power to, 5) a microcomputer, currently a raspberry pi, and 6) an SD card. The SD card holds the contents of the library as well as the instructions (software code) for the computer that allows it to produce the offline Wi-Fi hotspot (Hosman, 2015).

Figure 1: An image of two SolarSPELL Units (Theda, 2018). The unit on the left displays the inner components of the SolarSPELL unit, and the unit on the right displays a top view of the solar panel attached to each unit. There is a sign displaying the Wi-Fi signal name, as well as the web browser address that is used to access the library.

Any Wi-Fi capable device can connect to SolarSPELL's Wi-Fi hotspot. To access the library, first users must connect to the Wi-Fi network called "Spell". This is an offline Wi-Fi hotspot put off by the microcomputer included in the SolarSPELL unit. Next, users navigate to an internet browser and type into the search bar "10.10.10.10". This will lead users to the homepage of the library that is loaded onto their unit's SD card. The SolarSPELL Wi-Fi hotspot only enables access to the specific library content, and does not allow for other internet browsing (Hosman, 2019). The resources available on a SolarSPELL unit are all downloadable, and the file types used in the library are PDF, MP3, and MP4.

SolarSPELL uses a train-the-trainer approach whenever a library is deployed. SolarSPELL works with key community workers such as local teachers or Peace Corps volunteers. SolarSPELL team members train the local teachers in how to use the library and familiarize them with the content on the library, during a train-the-trainer training. These trainees then bring the SolarSPELL libraries back to their communities and the schools where they work, where they become the trainers of the new library users in their classrooms, schools, and communities.

SolarSPELL Health

SolarSPELL Health was created to bring evidence-based practice medical education to developing and under-resourced countries. The first SolarSPELL Health library was the SolarSPELL Health: Nursing and Midwifery Library. This project was pioneered by Dr. Heather Ross, clinical assistant professor at Arizona State University: Edson College - Doctor of Nursing Practice and School for the Future of Innovation in Society. The Nursing and Midwifery Library was designed for and created in partnership with the Juba School of Nursing and Midwifery, and the Juba School of Medicine in South Sudan.

The instructors at the health schools in Juba were the key partners for the deployment of the SolarSPELL Health: Nursing and Midwifery Library. The train-the-trainer model was updated for the implementation of this library to include evidence-based practice training. Because medicine is an ever evolving field, and new research is constantly being published, it is necessary that the SolarSPELL Health libraries are updated on a regular schedule. This is done by uploading a new version of

the library collection onto an SD card and sending it to the locations where the library is deployed. If the new version of the library requires additional onground training of the key partners, then members of the SolarSPELL team will travel to the necessary locations to provide the updated training (Raymond et al., 2020).

The organization of this library has been updated several times since its initial inception, and the current model has nine main areas of content. Each of the nine content areas houses further categories that contain the relevant resources that were curated for the Nursing and Midwifery Library collection (Library Demo, 2021). The curation of content for this library is ongoing, and this project is a part of the expanding resources to be included in future versions of the library.

Figure 2: An image of the homepage of the SolarSPELL Health: Nursing and Midwifery Library (Library Demo, 2021). This is the first section of the homepage, containing fifteen content areas: Basic Sciences and Anatomy/Physiology, Community and Public Health, Country Specific and Current Information, Dentistry, Diagnostic Tests and Laboratory, Educational Tools, Emergency Medicine, General Medicine, General Surgery, Mental Health, Pediatrics, Pharmacology, Research Methods Guidelines and Protocols, Standards of Practice and Patient Care, and Women's Health and Midwifery.

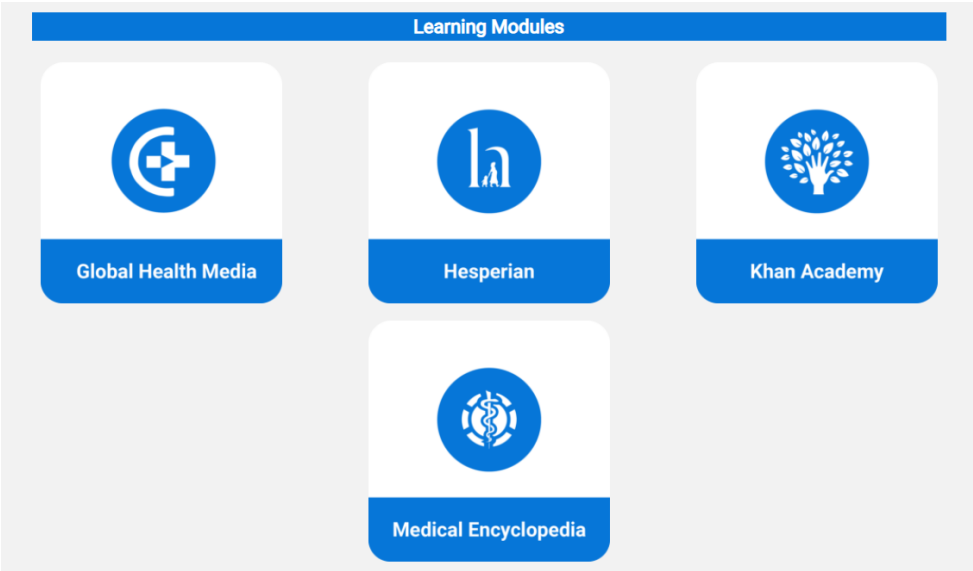

Figure 3: An image of the homepage of the SolarSPELL Health: Nursing and Midwifery Library (Library Demo, 2021). This is the second section of the homepage, containing Learning Modules covering four content areas: Global Health Media, Hesperian, Khan Academy, and Medical Encyclopedia.

SolarSPELL Health uses the updated train-the-trainer model that includes evidence-based practice training. The definition of evidence-based practice (EBP) used for this project is " a problem-solving approach to clinical care that incorporates the conscious use of the best available scientific evidence, clinicians' expertise, and patients' values" (Yoo et al., 2019). Implementing evidence based practice into the healthcare curriculum is important because it improves patient safety and health outcomes. SolarSPELL Health emphasizes the importance of respectfully blending the current health education with the updated evidence-based practice model.

The large majority of content on the SolarSPELL Health libraries is open access. Open access provides access to scholarly and research articles without financial or legal barriers (OpenAccess.nl, 2021). SolarSPELL Health provides the libraries and instructions without cost to the location where the resources are deployed. Open access content supports the mission of increasing access to scientific research and quality medical education, especially to communities that would otherwise be unable to access the research needed to learn using an evidence-based practice approach.

Previous Women's Health Work

This project is an expansion on the women's health work done for the first version of the SolarSPELL Health: Nursing and Midwifery Library. The goal of the original women's health work was to improve maternal mortality by providing resources specifically for midwives who practice in rural areas. The first version of the library was created for South Sudan, which has the highest maternal mortality rate in the world, of 800 deaths per 100,000 live births (Tongun et al., 2019). For comparison, the maternal mortality rate in the United States is 17 deaths per 100,000 live births (NVSS, 2019). The constant political and military conflict in South Sudan creates additional strain on an already struggling health system and leaves women, and especially pregnant women, vulnerable.

The original SolarSPELL Health work on women's health identified four main areas of concern in South Sudan: obstetric fistulas, sexually transmitted illnesses (STIs), emergency pregnancy complications, and menstrual health (Safer Motherhood, 2020). Resources that centered around these areas were curated, and a partnership with the

Global Library of Women's Medicine (GLOWM) was established. At the end of the initial women's health project the next greatest area of need was identified to be mental health and empowerment (Raymond et al., 2020).

Peace Corps Partnership

SolarSPELL as an organization has been working with the Peace Corps since 2015. In 2020, SolarSPELL and the Peace Corps entered a Global Strategic Partnership. This will allow SolarSPELL as an organization to rapidly expand their reach to remote communities and continue to provide education and resource access, while maintaining the integral train-the-trainer model. This rapid expansion will include several different areas, with a large focus on countries in Africa. This allows SolarSPELL Health to expand as well, as the original collection was tailored for South Sudan. The SolarSPELL Health collection is regionally tailored, and with additional review for cultural appropriateness for each additional country the library can be utilized in the new expansion countries.

Recently, SolarSPELL has partnered with Peace Corps Response, a specialized group of volunteers with previous healthcare experience. The Peace Corps Response team is deployed for a shorter period than the typical volunteer. Each team is trained to aid with a location's specific healthcare needs. SolarSPELL was asked to help with one of the new Peace Corps Response projects in Malawi, regarding nursing education and mental health. Because SolarSPELL is known to have culturally and regionally specific content, we were asked to create educational materials related to mental health that were reframed in an appropriate manner to be delivered in Malawi.

Cultural Relevance and Sensitivity

Culturally relevant teaching is specifically important to this project. According to Geneva Gay (2010), culturally relevant teaching "uses the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning more relevant and effective." By tailoring the content of the education module created in this project to East Africa, we ensure not only that the content fits within the rules of the government (for example, content regarding abortions is extremly limited in South Sudan), but also that it feels relevant to the students and health practicioners in our target countries. When students see images that include people of their skin tone, their country, and their profession, it feels more relevant to their situation. The content takes into account the relevant resources and infrastructure available to practitioners in target countries.

In Malawi, the two dominant religions are Christianity and Islam (Kauye & Mafuta, 2007). In South Sudan, the two major religions are Chirstiantiy and traditional African religions (South Sudanese Culture, 2021). There is also a smaller group in South Sudan who follow Islam (South Sudanese Culture, 2021). Because of this, it was important to include images that reflected women wearing hijab and not wearing hijab in the materials created for this project.

One of the major roadblocks to progress in the area of mental health has been social and cultural stigmas. When this project first began, mental health was considered too tense of a subject to be discussed outright. Because of this, it was deemed necessary to reframe the topic in a culturally relevant and socially digestible light. For this project,

that meant focusing on social support and women's empowerment in healthcare. Recently, SolarSPELL's partnership with Peace Corps Response has made it possible to directly talk about mental health. However, even though it is possible to broach the subject, there is still stigma in communities. Because of this, I decided to continue with the process of reframing the subjects to be culturally sensitive so that the content would be more likely to be accepted by a larger audience and the resulting changes to healthcare practice could be implemented in communities.

Epidemiology

Access to quality women's healthcare is limited in developing and under-resourced countries. In the target countries for this project, South Sudan and Malawi, the maternal mortality rates are 800 per 100,000 live births (Tongun et al., 2019) and 439 per 100,000 live births (Maternal Health, 2019) respectively. Compared to the United States where maternal mortality is 17.4 per 100,000 live births (NVSS, 2019) and the world's lowest rates of 2 deaths per 100,000 live births (Maternal Mortality Ratio, 2019), the numbers in the target countries are extremely high. The major areas of concern for women's physical health were identified to be obstetric fistulas, sexually transmitted illnesses (STIs), emergency pregnancy complications, and menstrual health (Safer Motherhood, 2020).

Recently, partners from the Peace Corps identified maternal mental health as another area of major concern. In 2007, there was one psychiatrist and two clinical psychologists in Malawi. The psychologists were not practicing clinically, but were teaching medical students (Kauye & Mafuta, 2007). As of 2019 there were only two

licenced psychiatrists for a population of 16 million, and neither of them were originally from Malawi (Lilford, 2020). The majority of the mental health care provided in Malawi comes from psychiatric nurses (Kauye & Mafuta, 2007). The health system in Malawi faces strain from chronic poverty and a high disease burden, with limited resources (MacLachlan, 2012). Zomba Mental Hospital is the only government tertiary psychiatric referral hospital in Malawi and is located in the southern region of the nation. The hospital has 333 beds and on average admits 1500 patients each year (Kauye & Mafuta, 2007). There is also a smaller psychiatric unit that has 30 beds in the central region and is run as a part of the Kamuzu Central Hospital (Kauye & Mafuta, 2007). In the northern region of Malawi, the St. John of God missionary hospital has 50 in-patient beds and primarily operates a community program (Kauye & Mafuta, 2007). This totals to roughly 400 beds for psychiatric patients in the entirety of Malawi. The large majority of patients who are admitted to the Zomba Mental Hospital are experiencing severe symptoms from their illness (Kauye & Mafuta, 2007).

South Sudan is the newest country in the world (World Population, 2021), and there is significant political and military conflict still within the country. Due to being such a new country, and the widespread conflict, South Sudan is considered to have one of the widest mental health treatment gaps in the world (Mogga, 2019). According to Mogga (2019), “A mental health treatment gap is the percentage of individuals who require treatment in a country or in a defined community but do not receive it. The reasons for this include: non-availability or poor access to services and stigma.” There is only one public medical facility in South Sudan set up for treating mental health, the Juba Teaching Hospital which has only 12 beds (Singh & Singh, 2014). Many of the patients

who are a danger to themselves or others are sedated. When there is not enough space, or sedation is not enough, patients are sent to the prison. There are 50 mental illness patients being housed in the Juba prison (IRIN, 2012).

LITERATURE REVIEW

Theoretical Frameworks

With the goal of improving maternal health outcomes through women's empowerment and increased spousal involvement in mind, a method of enacting that change needed to be found. Thus, the short term goal of implementing this project became finding a way for students to internalize similar goals and behaviors that reflected these goals. Because I was working with SolarSPELL Health for this project, the content needed to be educational and able to be delivered via the SolarSPELL Health: Nursing and Midwifery Library. Based on background research, the best way to change beliefs in an educational setting was to target self-efficacy.

The self-efficacy theory, from Bandura's work on social cognitive theory (1986), indicates that behavior is determined by two key factors; self-efficacy and outcome expectancies. Self-efficacy is an individual's belief in their ability to control their own behavior and affect the events in their life (Bandura, 1986). Outcome expectancies are the individual's perceived positive or negative consequences that result from performing a behavior (Bandura, 1986). Self-efficacy develops through four sources: mastery experiences, vicarious experiences, social persuasion, and emotional states (Bandura, 1986). This work focuses on mastery experiences and vicarious experiences, through educational content delivery and situation based exercises. By participating in and observing situation based learning, students will be able to improve self-efficacy in the desired behaviors. Evaluations that utilize belief scales are able to measure self-efficacy,

as well as perceptions of a specific topic or behavior. This allows us to study and predict outcome expectancies based on evaluation response analysis.

Self-efficacy is the latest addition to the Health Belief Model, which consists of six total constructs (Health Belief Model, 2019). The six constructs of the Health Belief Model are perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cue to action, and self-efficacy (Health Belief Model, 2019). The Health Belief Model focuses primarily on individual beliefs, and is one of the most widely used theoretical models in health promotion and disease prevention programs (Health Belief, 2018). When used in an educational context, the Health Belief Model can be used to create content that targets many facets of the six constructs (Health Belief, 2018). There are five key components that must be considered when implementing the Health Belief Model in an educational context. The first is determining the health burdens of the population, as well the ideal target groups for intervention. The second is ensuring that the educational content accurately conveys the consequences of the health issues and the severity. The third is educating the target group regarding the measures that need to be taken and highlighting the benefits to following those actions. The fourth is finding ways to provide assistance in identifying and reducing barriers to taking the identified measures. The fifth is developing self-efficacy through skill development activities and demonstrations (Health Belief, 2018). The fifth step in particular aligns with Bandura's (1986) development of self-efficacy through mastery experiences and vicarious experiences. This project primarily targets knowledge, skills, and self-efficacy. Each of the sections in the educational module created for this project are based in evidence to

foster patient-centered care, empowerment, and evidence-based practice. The scenario based learning exercises are designed to provide opportunities for improving self-efficacy through lived and vicarious experience.

In order to evaluate participant knowledge and self-efficacy, as well as changing beliefs and practices, a theoretical framework for healthcare evaluation needed to be selected. For this project, one of the most well known and commonly used evaluation scales in healthcare education, the Kirkpatrick four level model of evaluation (Kirkpatrick, 1959), was chosen.

The first level of evaluation in the Kirkpatrick model is the Reaction level. This level evaluates what the participants in a course liked or disliked, and how they felt overall about the delivery of the materials (Kirkpatrick, 1959). This level of evaluation does not measure learning or beliefs. This is considered to be the simplest level of evaluation and is generally not considered to be impactful to lasting behavioral changes in healthcare education (Beech & Leather, 2005).

The second level of evaluation is the Learning level. The second level measures how much participants have internalized and intend to utilize the course learning objectives (Kirkpatrick, 1959). When used for healthcare education, belief scales are often used to evaluate participants at the second level (Beech & Leather, 2005).

The third level of evaluation in the Kirkpatrick model is the Behavior level. This level measures how the skills and knowledge learned in a course transfer to performance in healthcare practice (Kirkpatrick, 1959). There are several different evaluation techniques that can be used to evaluate healthcare education learners at this level, many of which center around instructors evaluating the students in their classroom (Beech &

Leather, 2005). The situation based learning scenarios described in the methods section of this paper are designed for instructors to be able to evaluate participants at the third level.

The fourth level of evaluation is the Results level. Though it is the most comprehensive evaluation level, instructors often do not evaluate at the final level because of intense time and cost investment required (Kirkpatrick, 1959). When evaluating the fourth level for healthcare education, the goal is to identify and measure the impact of the training on the target population and community in the long term (Beech & Leather, 2005). An example of a level four evaluation in the context of this project would be measuring changes over time in maternal mortality and morbidity in the target countries. This level of evaluation is beyond the scope of the current project framework. However, a level four evaluation could be performed in the future, or results could be gleaned from government and health clinics reported numbers in the target locations.

Pedagogy

To build the most effective module possible, it was important to evaluate the literature. The first step was studying the common teaching and evaluation methods in healthcare education. Next was seeking out newer, evidence-based methods that could be implemented in novel settings. The goal was to find the methods best suited to the region and students that will be using the education module. It was important to evaluate the typical methods of teaching in East Africa and compare them to those in the West to evaluate for cultural bias. It was critical to ensure that while incorporating

evidence-based practice teachings, cultural reverence to the methods and standards already in place in the target countries was maintained. Additionally, as teachers and students in the target countries often do not have access to the internet, it was necessary to consider how that would affect changes to teaching methods.

Because this project is being implemented using the SolarSPELL library, it was crucial to utilize the framework of an offline library for educational content. To blend the evidence-based practices for healthcare education with those of the offline learning environment, there was a focus on interdisciplinary research articles and studies.

Resilient Formatting

This project builds the concepts of culturally relevant teaching and learning from the definition by Geneva Gay (2010) "culturally relevant teaching uses the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning more relevant and effective." This project maintains SolarSPELL's focus on ensuring that content is designed and curated specifically for the region and countries where it will be deployed. In this case, that means Malawi and South Sudan in East Africa.

By tailoring the content of the education module created in this project to East Africa, we ensure not only that the content fits within the legal requirements of the governments (for example, content regarding abortions is extremly limited in South Sudan), but also that it feels relevant to the students and health practicioners in our target countires. The major religions in our target countries are Christianity, Islam, and traditional African religions (Kauye & Mafuta, 2007; South Sudanese Culture, 2021).

Because of this, images included in the documents contained women both with and without hijab. When students see images that include people of their skin tone, their country, and their profession, it feels more relevant to their situation. The content takes into account the relevant resources and infrastructure available to practitioners in target countries.

SolarSPELL partners operate in locations that do not have reliable access to the internet. Because of this, it is important to design content that is resilient to the lack of connection. All items in the education module are created to be downloaded. Transcripts were created for each video included in the module, to lessen the download space needed on a device, as well as to account for slow loading speeds if students were able to connect to the internet. Though English is commonly spoken in the schools where the library will be implemented, it will likely not be many students' first language. Because of this, it is important to introduce the concepts in a way that is not only culturally relevant, but is also digestible at an appropriate level of English reading comprehension (Gay, 2010). I wanted to be sensitive to not just the cultural differences, but also any educational differences that result from implementing educational resources in another country. In transnational education, it is critical that the curriculum is designed to facilitate student learning that is relevant to student identities, culture, and experiences (World Savvy, 2021). By doing so, it involves students in their education, as well as empowering and aiding them in developing identity, cultural awareness, and a respect for diversity (World Savvy, 2021).

METHODS

Background Research

As discussed in the literature review section of this paper, South Sudan and Malawi have poor maternal mental and physical health outcomes compared to the United States. They lack the infrastructure and evidence-based practice education that is widely available in the West. To learn more about what had already been done to combat this issue and other similar issues, articles and studies on maternal health, empowerment, mental health, and spousal involvement were reviewed. Background studies that were performed in the West were evaluated, but the majority of the research reviewed was studies done in Africa. This was done to ensure that the resources and education content were culturally sensitive surrounding the sensitive topics of mental health and empowerment. By evaluating the health needs of the target populations, as well as previous interventions, the background research aligned with the first construct of implementing the Health Belief Model in an education setting (Health Belief, 2018).

The objective for the second phase of background research was to identify methods that had been shown to improve maternal mental health outcomes. It was found that in addition to implementing evidence based practice, increasing spousal support and empowering women in healthcare were two ways that could improve mental health outcomes. In order to reframe the topics related to mental health, the focus was on empowering women in a healthcare setting through patient-centered care. It was critical that all of the resources curated and created for the module were culturally sensitive and relevant.

Quasi-Experimental Design

The goal of a quasi-experimental study is to establish a cause-and-effect relationship between an independent and a dependent variable. This method of study utilizes a non-random group assignment for participants, and a control group is not required (Thomas, 2021). The benefits of a quasi-experimental study design include a higher external validity compared to many true-experiments and higher internal validity than most other non-experimental study designs (Thomas, 2021). The drawbacks to this design include lower internal validity than most true-experiments and difficulty interpreting retrospective data (Thomas, 2021).

One of the largest benefits of choosing a quasi-experimental design is that this method is less expensive and requires less resources than a laboratory study (Schweizer, 2016). The main reason that this method was chosen was practicality. It would be extremely resource and time intensive to recruit students from Malawi and South Sudan to participate in a laboratory based study. It would likely also be challenging to maintain the cultural relevance in a traditional laboratory based experimental design. By utilizing the quasi-experimental design, it is possible to utilize the field based train-the-trainer method that is central to SolarSPELL's implementation design. This method ensures that the resources already available are best utilized to create a positive change for maternal health outcomes.

Resource Curation

Once there was an outline of the subjects that would be covered in the education module, it was necessary to locate resources that contained the appropriate language and explanations to support the reframed mental health and women's empowerment education topics. It was important to the SolarSPELL philosophy that the resources included in the module were open source. Several sources that were used to locate resources were the Public Library of Science, GLOWM, and the U.S. National Library of Medicine. Three articles were included in the module. The articles are included as supplemental reading, to provide background and setting for much of the information presented in the module. Three videos were also included as a part of the educational module, from GLOWM, the United Nations Foundation, and the Australian Commission on Safety and Quality in Health Care.

In addition to curating the open source resources that were included in the library, it was necessary to curate the resources that were created specifically for the education module. Each of the resources were cataloged in a spreadsheet to preserve the metadata for uploading to the SolarSPELL library. The spreadsheet included two main categories, information about the resource and information about the file. In the first category were sections for the original resource link, title of the resource, creator, year published, language, main subject, resource type (lecture, article, video), audience, and a short description. In the second category were sections for the file name, SolarSPELL library designation, keywords, rights holder, rights statement, format (PDF, MP4, MP3), file size, and date reviewed. By cataloging the metadata information in a spreadsheet, uploading and organizing the resources for the SolarSPELL library was streamlined.

Module Creation

Module Organization

The first step in the module organization was to create an outline based on the information from previous research and content curation. Based on this organization, I created a diagram of how participants would access the content of the education module in the actual SolarSEPLL library. Through collaboration with Sara Jordan, SolarSPELL's head librarian, digital visuals and organization were established. The module was designed to be accessed under the *Women's Health and Midwifery* section of the library, as a folder labeled *Patient-Centered Maternal Care*.

Figure 4: An image of the *Women's Health and Midwifery* main folder in the SolarSPELL Health: Nursing and Midwifery Library (Library Demo, 2021).

Because SolarSPELL resources are displayed in alphabetical order, the resources are listed as # resource name (ie. 1 Introduction, 2 Evidence-Based Practice, etc.). This ensured that the resources appeared in the correct order. The order of the resources in the *Patient-Centered Maternal Care* folder is:

- Introduction Document
- Evidence-Based Practice Document
- Women's Empowerment Document
- Women's Empowerment Video
- Women's Empowerment Video Transcript
- Patient-Centered Care Document
- Shared Decision Making Document
- Shared Decision Making Video
- Shared Decision Making Video Transcript
- Spousal Involvement Document
- Spousal Involvement Video
- Spousal Involvement Video Transcript
- Patient and Family Education Document
- Conclusions Document
- Learning Scenario 1 Outline
- Learning Scenario 2 Outline
- Learning Scenario 3 Outline
- Optional Reading Article 1
- Optional Reading Article 2

➢ Optional Reading Article 3

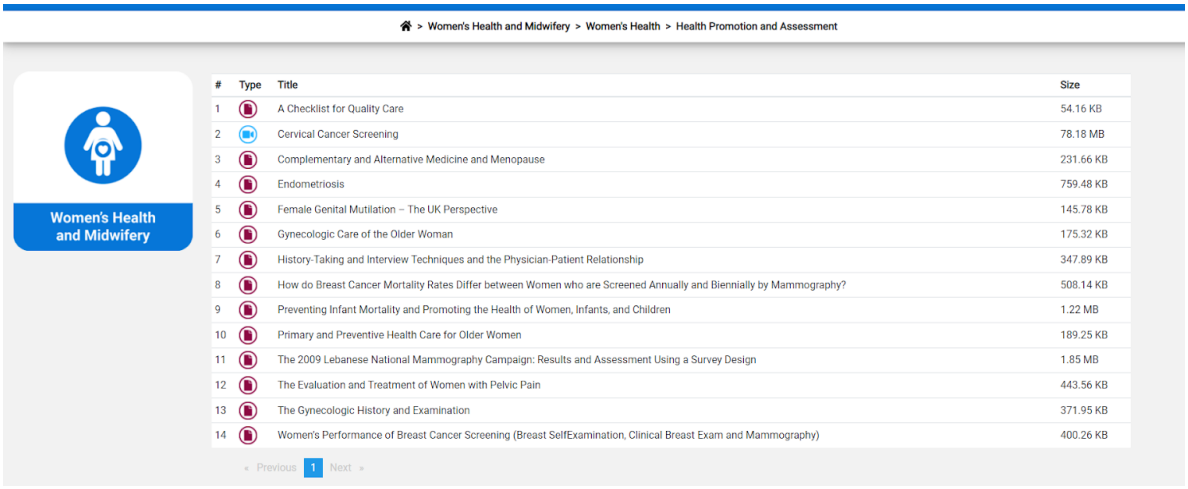

Figure 5: An image of one of the existing folders inside the Women's Health and Midwifery main folder in the SolarSPELL Health: Nursing and Midwifery Library (Library Demo, 2021). This image represents how the resources will be displayed inside of the library once the Patient-Centered Maternal Care folder is created.

Through further collaboration with Sara Jordan, a copyright statement that was included in all of the documents for the education module was created. The statement included in the documents was: *This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. Courtney Raymond 2021.* The license above indicates that the user may freely copy and redistribute the material in any medium or format, as well as to remix, transform, and build upon the material for any purpose, even commercially (Creative Commons, n.d.). By having a copyright for the documents,

it was made clear that the author of the documents wished for them to remain open source for future use.

Description of Each Topic

The module consisted of six educational topics. The order of topics discussed was: evidence-based practice, women's empowerment, patient-centered care, shared decision making, spousal involvement, and patient and family education. The module was broken down into informational documents, videos, video transcripts, and research articles. The module began with an introduction document entitled *Patient-Centered Maternal Health,* which outlined the topics covered within the module, the types of learning materials, and the SolarSPELL library. The final educational document included in the education module was titled Conclusions and consisted of a list of key points from each educational topic within the module.

Each topic section in the educational module was designed with two specific components of utilizing the Health Belief Model for healthcare education in mind. The first being conveying the consequences of each relevant health issue and the perceived severity (Health Belief, 2018). The second was educating the target group on the steps involved in implementing the recommended set of actions, as well as the benefits to each action (Health Belief, 2018).

The first educational topic was evidence-based practice. The informational document on evidence-based practice discussed the definition, the five steps for implementation, the benefits, and contained keywords that led to additional EBP content in the SolarSPELL library. The definition of evidence-based practice used in the

education module is “a problem-solving approach to clinical care that incorporates the conscious use of the best available scientific evidence, clinicians’ expertise, and patients’ values.” (Yoo et al., 2019). Evidence-based practice has been shown to lead to improved health outcomes for patients, regardless of the setting where it is implemented (Williamson, 2020). When evidence-based practice is implemented, the quality of care that patients receive often improves, additionally implementing EBP ensures that the care provided is effective, efficient, and safe (Stevens, 2013).

The second educational topic was women’s empowerment. The informational document on women’s empowerment discussed a definition of women’s empowerment in a healthcare setting, as well as reasons to and benefits of empowering women. The document contained a “Learn More” section with keywords that led to additional women’s empowerment content in the library. A video from the United Nations Foundation, entitled *Voluntary Family Planning: Saving Lives, Empowering Women and Building Stronger Communities* and a matching video transcript were also included under this section.

For the purpose of this project, women’s empowerment in healthcare meant involving women in making their own healthcare decisions and enabling women to act on the health issues that are important to them (Ehrhardt et al., 2009). Empowering women has been shown to improve health outcomes for both men and women. Additionally, when women are involved in a decision making role in their healthcare, especially as related to sexual health and fertility, they have been shown to have improved overall health outcomes (Ehrhardt et al., 2009). Increasing access to reproductive health education and information, as well as providing women with the opportunity to make

family planning decisions can reduce both maternal and infant mortality (UNFoundation, 2011).

The third educational topic was patient-centered care. The informational document on patient-centered care included a definition, a nine element model of patient-centered care, benefits to implementing, and a "Learn More" section with keywords that led to additional content on the SolarSPELL. Patient-centered care in the context of this project was where healthcare providers and patients have a partnership in determining healthcare plans. Treatment plans are focused on multiple perspectives that encompass many areas of the patient's life, including clinical, emotional, mental, spiritual, social, and financial. The focus of healthcare decisions in patient-centered care are the individual patient's unique needs and desired health outcomes (NEJM Catalyst, 2017). Patient-centered care has been shown to increase patient satisfaction with their care, as well as the perception of providers among the populations they serve. Provider morale and productivity has been shown to improve with patient-centered care programs, showing the benefits that extend even past patients (NEJM Catalyst, 2017).

The fourth education topic was shared decision making, a critical part of patient-centered care. The informational document on shared decision making included a definition, a description linking shared decision making to women's empowerment in a healthcare setting, the benefits of shared decision making, and a "Learn More" section. There was also a video from the Australian Commision on Safety and Quality in Healthcare, entitled *Shared Decision Making an Overview* and a matching video transcript.

Shared decision making is an important part of patient-centered care, in which patients and providers work together, discuss options, as well as weigh risks and benefits. To determine the next steps in a treatment plan, the patient and provider take into account the patient's preferences, circumstances, and values into consideration (ACSQHC, 2017). Shared decision making is critical to empowering women in a healthcare setting. By involving women in making their own healthcare decisions, entire families and communities benefit. Women who experience care that involves shared decision making during pregnancy have more overall positive childbirth experiences (Homer et al., 2021). The respectful maternity care recommended by the World Health Organization includes informed choice and continuous support during and post labor. Respectful maternity care creates an environment where women are clinically, emotionally, and psychologically safe, as well as empowered to express their healthcare needs and wishes (Homer et al., 2021).

The fifth education topic was spousal involvement. The document on spousal involvement included a definition, the importance of, the benefits of, and a “Learn More” section. There was a video from GLOWM, entitled *The Role that the Father Can Play* and a matching video transcript. Studies have shown that both emotional and tangible social support are linked with better pregnancy outcomes for mothers and children. When providers support their patients by educating them on pregnancy and sexual health related topics, there has been shown to decrease physical complications during labor and delivery. Spousal support can lead to lower risk of complications, as well as better health outcomes for mother and child post-delivery (Gjerdingen et al., 1991). This support can come in many forms, including emotional support, assisting with household duties,

helping with childcare, and attending pregnancy health visits. Mothers who receive greater support from their spouse have been found to have more positive mental health outcomes at both one and four months postpartum (Crnic et al., 1983). Social support in general has been shown to aid in moderating the negative effects of stress on mother's life satisfaction (Crnic et al., 1983). Both emotional and tangible support from a spouse has been shown to lead to lower pregnancy complication risk, as well as better postpartum health outcomes for mothers and children (Gjerdingen et al., 1991).

The sixth education topic was patient and family education. The document on patient and family education included a section on the benefits of and reasons to educate women and families and one on how to utilize the SolarSPELL library in the field to provide education. Studies have shown that by increasing patient education on pregnancy and reproductive health, anxiety during clinical visits can be reduced and patient comfort increased. Critical areas of patient education include family planning, routine prenatal care, normal and abnormal signs in pregnancy, and the importance of social support. Similar to the WHO recommended respectful maternal care, GLOWM recommends individualized education and emotional support for each patient for the entire pregnancy (Welch et al., 2008).

Document Design

This portion began with searching the best practices for engaging educational documents, as well as the video transcripts. Because health students in South Sudan and Malawi are often receiving old education materials from Western countries, it was determined that it would be best to avoid monotonous or overused materials such as

powerpoints. Based on the background research, one of the best ways to engage students was breaking the material down into multiple smaller sections, as well as to present engaging documents. The video transcripts were based upon the print out format for presentations that contain an adjacent small section to take notes. Instead of blank lines, the transcripts contained one to two lines of text to accompany each image.

Short titles were designed for each section that can be said in one breath, as an accurate summary of the content contained within the document. The titles were centered at the top of the page in bold typeface to separate it from the body of the document and bring the reader's attention to the top of the page. The section headings were placed in bold typeface and along the left margin, to help the reader quickly identify the section of the document they are looking for. Bullet points are utilized where there are lists of related items. Bullet points were utilized to increase the readability of documents, as well as increase the ease for readers locating the content they may seek (Smith, 2018).

Images reinforce the content of the document they are in (Smith, 2018). By adding images to the documents, it was also possible to make the content more relevant to the target audience. When selecting images for the resources, in addition to ensuring that the shape and quality of the photographs fit the document, images were chosen that were from East Africa and reflected the relevant situations described in the accompanying text. Because open source is so important to SolarSPELL, creative commons images were used for all of the photos in the education module.

Times New Roman was utilized in all of the documents, as sans serif fonts are the ideal for informational and printed documents (Smith, 2018). For the titles, 19 point font size was used to draw the attention of the reader. For section headers, body text, and

citations, 12 point font size was used, as it is considered the ideal size for written documents (Smith, 2018). The copyright statement was listed on the bottom right of the pages in 8 point, as it needed to be visible, but not eye catching or easily confused with body text. Because double spaced lines are the common standard in academic works and the documents are being used for secondary education, the resources follow that same standard. Another reason for utilizing double spacing is to increase readability for students whose first language is not English. As explained by Gay (2010) it is critical to account for reading comprehension in transnational education. The standard recommended 1 inch margins were used, as they utilized white space and helped to focus the reader's attention on the content of the documents (Smith, 2018).

Keywords were chosen to be included at the end of the "Learn More" sections in the educational document, as opposed to the originally proposed links. By using keywords, the library is able to grow and additional resources can be added to each section. These new resources could easily be located by searching the recommended keywords. It also ensured that as the library updates, there would not be any broken links. It would be simple for a link to be missed in a library wide update, which could limit the usability of the resources. An additional benefit of including keywords is that it encourages students to utilize the library for additional research, and helps to develop evidence-based practice learning skills.

Scenario Based Learning

Scenario based learning is a common feature of nursing education and evidence-based practice teaching and can improve students' confidence in their clinical

judgment skills, aptitude for critical thinking, and experience in novel situations (Sanford, 2017). This method of experience based learning has been used in nursing education since as early as World War II. As technology increases, scenario based learning has developed and gained wider use in healthcare education across many specialties (Sanford, 2017). The use of scenario based learning aligns with the final construct in utilizing the Health Belief Model for education, enhancing self-efficacy through skill development activities (Health Belief, 2018). By partaking in experience based learning in the classroom, students are able to build self-efficacy (Bandura, 1986).

There are three scenario based learning exercises that were created for this project. The first is a woman in labor whose spouse is reluctant to be present or involved, with three actors, the provider (nurse or midwife), the patient, and the spouse. The second is a prenatal visit with a woman and her spouse, where the spouse is reluctant to engage in pregnancy and family planning. There are three actors, the provider, the patient, and the spouse. The third scenario is a prenatal visit where a pregnant woman is reluctant to engage her spouse in the pregnancy and family planning process. This scenario has only two actors, the provider and the patient.

Evaluation Methods

In order to evaluate the efficacy of the educational content, this project utilizes levels two and three of the Kirkpatrick four level model of evaluation. The second level of the Kirkpatrick model is the Learning level and it measures participants' internalization and intention to use what they have learned (Kirkpatrick, 1959). For healthcare education, the common evaluation tool at this level is the belief scale (Beech & Leather,

2005), which is scored using a Likert scale. A Likert scale is traditionally a five or seven point scale that is used for a participant to express the level at which they agree or disagree with a statement, with options ranging from “strongly disagree” to “strongly agree” (Likert, 1932). This project utilizes the belief scale method of evaluating the Learning level in the Kirkpatrick model with four separate Likert scale evaluations (Melnyk et al., 2008; Zachariae et al., 2015; Härter et al., 2010; Lin et al., 2016). The surveys will be implemented prior to the use of the educational content in the module and will again be issued following the completion of the module and scenario based learning exercises. The surveys will be utilized a third time three to six months following the completion of the module, to evaluate the lasting effects on beliefs and behaviors that the content has.

A comprehensive search was done to identify belief scale evaluations for each of the topic areas covered in the education module. Relevant belief scales for evidence-based practice, patient-centered care, shared decision making, and patient education were found. However, belief scales that evaluated providers' views on women’s empowerment in the healthcare setting and spousal involvement were not found in the searches.

The belief scale used for evaluating evidence-based practice is rated using a five-point Likert scale from 1 (“strongly disagree”) to 5 (“strongly agree”) for how often participants have performed each item on the list within the last 8 weeks. The belief scale was developed by Melnyk et al. in 2008 and is entitled Evidence-Based Practice Beliefs Scale (EBP Beliefs Scale).

The belief scale used for evaluating patient-centered care asks providers to rate how confident they are in their ability to relate to and communicate with patients as described in each question. The evaluation uses a five-point Likert scale from 1 (“to a very low degree”) and 5 (“to a very high degree”). The belief scale was developed by Zachariae et al. in 2015 and is entitled The Self-Efficacy in Patient-Centeredness Questionnaire (SEPCQ-27).

The belief scale used for evaluating shared decision making utilized a six-point Likert scale, from 1 (“completely disagree”) to 6 (“completely agree"). This scale is unique in that it does not provide a neutral option. The evaluation asks providers to indicate how much they agree or disagree with the listed statements related to the decision making process in consultations. The belief scale was developed by Härter et al. in 2010, is entitled The 9-item Shared Decision Making Questionnaire (SDM-Q-9).

The belief scale used to evaluate patient education utilizes a seven-point Likert scale from 1 (“no ability”) to 7 (“fully capable”) and asks providers to rate their confidence in educating patients based on the situations described in each question. The belief scale was developed by Lin et al. in 2016 and is entitled Patient Education Competence Scale for Registered Nurses (PECS-RN).

As stated above, there were no relevant belief scales that evaluated providers' views on women’s empowerment in the healthcare setting and spousal involvement identified. In order to measure these relevant topics, qualitative measurement questionnaires were created. These questionnaires were based upon related belief scales that were located within the literature. The questions on both scales were designed to be open ended and invite participants to expand upon their own personal beliefs and

experiences related to the topics. The women's empowerment questionnaire was based largely on the Mothers Autonomy in Decision Making (MADM) belief scale evaluation created in 2017 by Vedam et al.. There was no relevant belief scale from which to base the questions in the spousal involvement evaluation.

DISCUSSION

This project was done in partnership with SolarSPELL Health, and created to be deployed as a part of the SolarSPELL Health: Nursing and Midwifery Library. The work done for this project was a continuation of my previous work with the SolarSPELL Health team. The areas of physical health need were identified and addressed in the original project, and this thesis addresses the identified need for culturally sensitive content on mental health. Though the need for mental health resources was identified prior to SolarSPELL's partnership with the Peace Corps Response, their additional request for materials made it critical that education and evaluation content was created for the specific target countries of Malawi and South Sudan.

The content contained in the education module will be available to download for all of the library's users, even outside of the evaluation context of the planned study. The evaluation surveys will be conducted on paper, due to the lack of internet accessibility in the target countries. SolarSPELL as an organization already has an impact evaluation team that utilizes a paper based survey method to evaluate the efficacy of the libraries. This project will utilize the familiarity of the system that already exists to implement the evaluation belief scales and surveys for the project.

The scenario based learning content will be delivered in a classroom setting at the health education schools that SolarSPELL and the Peace Corps are partnered with. In South Sudan, they already have a long standing tradition of acting out scenarios in the classroom, now we are just tailoring this tradition to fit the evidence-based practice education and implementation of patient-centered care.

The theoretical frameworks utilized to address self-efficacy were Bandura's (1986) self-efficacy theory and the Health Belief Model (2019). They address multiple facets of healthcare education and ensure that students learn and internalize the learning objectives. Additionally, these frameworks utilize both lived and vicarious experiences as a way to improve self-efficacy (Bandura, 1986; Health Belief, 2018). In order to evaluate the objectives laid out in the first two frameworks, the Kirkpatrick four level model of evaluation is utilized (Kirkpatrick, 1959).

From ensuring good pedagogy for healthcare education in an offline environment, to creating engaging documents that cater to different levels of English comprehension, sustainability and resilience are integral parts of this project. SolarSPELL itself utilizes a train-the-trainer model that is adapted to each library, ensuring that the knowledge that comes from experience in the field is passed on to each new generation of library users. Using open source content is another way for the materials to remain evergreen. As new versions of the educational materials and library content are created, using open source ensures that previous versions are still accessible and can show the shoulders of which the current models are built upon.

Though following the first component in the Health Belief Model, gathering information regarding the epidemiology of the population and determining the target groups for intervention (Health Belief, 2018), the organization for the education module was developed. The second component of the Health Belief Model is determining and communicating the concerns and effects that stem from the epidemiology identified in the first component (Health Belief, 2018). The third component is communicating to the intervention group the steps for implementing identified solutions, as well as the benefits

to those actions (Health Belief, 2018). The educational documents satisfied these components of the model. The fifth component, improving self-efficacy through skill development activities and demonstrations (Health Belief, 2018) also coincides with the goals of Bandura's (1986) self-efficacy model. Self-efficacy is addressed using the situation based learning exercises.

The fourth component of the Health Belief Model is not completely satisfied in the scope of this project. This component consists of aiding the target groups in identifying and reducing barriers to taking the necessary action outlined in component three (Health Belief, 2018). Though the evaluation surveys provide the opportunity to identify barriers to implementation, they do not provide the resources necessary to reduce the barriers. This would be a possibility at a future point of intervention, if the SolarSPELL Health team were to continue implementing mental health education and analyzing the belief scale results.

There is a gap in the literature regarding quantitative evaluation belief scales for providers' views on women's empowerment and spousal involvement as discussed in the education module of this project. This is in part because it has been commonly accepted and taught in the West that spousal involvement and women's empowerment should be the norm. This is a new area of evaluation in the East African region, and by beginning with qualitative surveys it provides the chance for this area of research to begin. Further quantitative evaluations can be built upon the initial qualitative research, but there first has to be a baseline evaluation.

Ethical Implications

Because we are working in the space of transnational education, it is important to evaluate our own biases. This project aims to improve equity in healthcare education to improve healthcare outcomes, but it is necessary to remember that the way healthcare is approached at a large institution in the United States will be very different from healthcare in developing or under-resourced countries. Because of these differences, I focused heavily on ensuring that the resources for this project were culturally and regionally specific. By creating resources specifically for each new location, we are able to eliminate some of the biases that arise. However, because I am a student at ASU, in the United States, it is inevitable that some of the work that I put forward may not be appropriate for our target population. This is one area where SolarSPELL's on ground partners are invaluable, as they can help ensure that all resources are relevant based on specific experience.

Advice for the Future

The advice that I would give to whoever works on this project in the future is to focus on collaboration. Each team member at SolarSPELL has a unique background and perspective that can benefit the project. I found that the quality of my work improved with collaboration, and I would suggest that future students approach the project with that in mind. Being on a team allows each member to see other's blind spots, as well as find new ideas through the collaborative process. Working with the team can help not just with creating content, but also for moving the project forward in new directions.

Collaborating with the team has been invaluable and it provides many opportunities for growth.

CONCLUSIONS AND RECOMMENDATIONS

This project aimed to create a quasi experimental study, by implementing an education module that focused on evidence-based practice learning and maternal health. The Kirkpatrik four level model was used to identify and develop the relevant surveys and evaluation materials. The content of the education module was specifically designed to be both culturally and regionally relevant to the target countries of South Sudan and Malawi. The education module was designed to be hosted on and implemented using the SolarSPELL Health: Nursing and Midwifery Library. The project consisted of several phases, including a literature review, curation of resources, creation of educational materials, creation of learning scenarios, curation of relevant belief scales, and integration into the SolarSPELL Health: Nursing and Midwifery Library. This thesis project created a foundation and framework from which SolarSPELL Health can implement the resources at a future date. In the bigger picture, creating this experimental framework is one of the founding steps to improving maternal mental and physical health outcomes in the target countries of South Sudan and Malawi.

Future directions for this project include mentoring either a Barrett student or a Masters student this upcoming school year, following graduation, to implement the project on ground in South Sudan and Malawi. As the education module and surveys are implemented in the target countries, there will need to be interdisciplinary work from different SolarSPELL and Peace Corps teams. Expansion to other countries in East Africa would be a reasonable next step if the project is successful in the current target countries. Additional target regions could be added at a future date. However, the content

of the module would need to change significantly to ensure cultural and regional relevance in possible new locations.

Additionally, the fourth component of the Health Belief Model (Health Belief, 2018) could be addressed through future analysis of the results from the evaluations. This would require additional collaboration with the health education schools that SolarSPELL is partnered with. Once the barriers to implementation have been identified, reducing the barriers would require additional resources. These resources could possibly come from further partnership and intervention with the Peace Corps Response team.

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APPENDIX I

EDUCATIONAL DOCUMENTS

Patient Centered Maternal Health

In this Module You Will Learn:

- Evidence-Based Practice
- Women's Empowerment
- Patient-Centered Care
- Shared Decision Making
- Spousal Involvement
- Patient and Family Education

Learning Materials

You have already taken the initial assessment for the module and there will be additional assessments following the completion of the educational content of the module. There will be educational documents, videos, video transcripts, and relevant research articles. The research articles are not required to be completed before the followup assessments, but are instead optional readings. All files will be either PDF or MP4 format. There will be links to related content on the SolarSPELL that is not a part of this module, but you are encouraged to look into it if interested.

Evidence-Based Practice

What is Evidence-Based Practice

According to Yoo et al. (2019), "Evidence-based practice (EBP) is a problem-solving approach to clinical care that incorporates the conscious use of the best available scientific evidence, clinicians' expertise, and patients' values."

There are Five Steps in EBP:

- Form a clinical question to identify a problem.
- Gather the best evidence.
- Analyze the evidence.
- Apply the evidence to clinical practice.
- Assess the result.

(Eastern Illinois University, 2018)

Benefits of Evidence-Based Practice

The implementation of evidence-based practice leads to better health outcomes for patients, regardless of the setting or facility where it is implemented (Williamson, 2020). Care that is based in evidence can improve the quality of healthcare patients receive, and ensure that the care provided is safe, effective, and efficient (Stevens, 2013).

Learn More

Evidence-based practice is considered a crucial part of modern healthcare education. The SolarSPELL library has additional resources and educational materials on evidence-based practice that can be found using the key words: *Evidence-Based Practice, Midwifery,* and *Women's Health.*

Citations

Eastern Illinois University. (2018, December 10). *Why Is Evidence-Based Practice in Nursing so Important?* Eastern Illinois University. https://learnonline.eiu.edu/articles/rnbsn/evidence-based-practice-important.aspx.

Stevens, K. (2013, May 2). *The Impact of Evidence-Based Practice in Nursing and the Next Big Ideas*. American Nurses Association. https://ojin.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-18-2013/No2-May-2013/Impact-of-Evidence-Based-Practice.html.

Williamson, K. (2020, July 30). *Evidence Based Practice in Nursing Education: The Nuts and Bolts of Integration.* Fuld Institute for EBP. https://fuld.nursing.osu.edu/evidence-based-practice-nursing-education-nuts-and-bolts-integration.

Yoo, J., Kim, J., Kim, J., Kim, H., & Ki, J. (2019, December 26). *Clinical Nurses' Beliefs, Knowledge, Organizational Readiness and Level of Implementation of Evidence-based Practice: The First Step to Creating an Evidence-based Practice Culture*. PLOS One. https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0226742.

Women's Empowerment

What is Women's Empowerment

Empowering women in the context of healthcare means involving them in a decision making role for their own health and enabling them to act upon issues they feel are important (Ehrhardt et al., 2009).

Why Empower Women?

Empowering women can be beneficial and improve health outcomes for both men and women. Women who are involved in making their own healthcare decisions, especially those related to sexual health and fertility, have better overall health outcomes (Ehrhardt et al., 2009). Increased access to reproductive health information and the ability to make family planning decisions can reduce both maternal and infant mortality (UNFoundation, 2011).

"Healthy mothers and wives are better able to look after the health of husbands, sons, and daughters. Women armed with strong knowledge of health-seeking behavior can transmit that knowledge to their families, and women with power and respect within families and communities can lobby for resources to be invested in health care." (Ehrhardt et al., 2009)

Learn More

Women's empowerment is a modern movement in healthcare aimed at increasing positive outcomes for women's health. The SolarSPELL library has additional resources and educational materials on women's empowerment that can be found using the key words: *Family Planning, Midwifery, Women's Empowerment,* and *Women's Health.*

Citations

Ehrhardt, A., Sawires, S., McGovern, T., Peacock, D., & Weston, M. (2009, July 1). *Gender, Empowerment, and Health: What is it? How Does it Work?* US National Library of Medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3296368/.

Voluntary Family Planning: Saving Lives, Empowering Women and Building Stronger Communities. (2011, July 11). UN Foundation. https://www.youtube.com/watch?v=CcomXke0cnQ.

Patient-Centered Care

What is Patient-Centered Care

In patient-centered care, healthcare providers and patients are partners. Treatment plans are not just focused on the clinical perspective, but also on emotional, mental, spiritual, social, and financial perspective. When patient-centered care is implemented, the focus of healthcare decisions are an individual's unique health needs and desired health outcomes (NEJM Catalyst, 2017).

Elements of Patient-Centered Care

- The goals of the providers and facilities are aligned with patient goals.
- The care provided is a collaboration between providers and patients
- Appropriate care is accessible to patients, both in location and timeliness
- Care focuses both on the physical comfort of patients, as well as their emotional well-being.
- Providers respect patients' cultural traditions, preferences, socioeconomic conditions, and values.
- Patients and families are respected and expected as part of the care team
- Patients play a role in making healthcare decisions

- The presence of family members is encouraged and facilitated in healthcare settings
- Patient information is shared fully and in a timely manner with the patients, so they can make informed decisions.

(NEJM Catalyst, 2017)

Benefits of Patient-Centered Care

There are many benefits to patient-centered care. Patient satisfaction with their care improves with the implementation of patient-centered care. The reputation of healthcare providers improves amongst the populations they serve. Not only do patients see the benefits of this type of care, but provider morale and productivity has been shown to improve with patient-centered care programs as well (NEJM Catalyst, 2017).

Learn More

Patient-centered care focuses on the partnership between patients and providers, with benefits to both groups. The SolarSPELL library has additional resources and educational materials on patient-centered care that can be found using the key words: *Midwifery, Patient-Centered Care, Shared Decision Making, Women's Empowerment,* and *Women's Health.*

Citations

What Is Patient-Centered Care? (2017, January 1). NEJM Catalyst.

https://catalyst.nejm.org/doi/full/10.1056/CAT.17.0559.

Shared Decision Making

What is Shared Decision Making

Shared decision making is a part of patient-centered care. It involves the patient and provider working together, discussing options, weighing risks and benefits, and taking the patient's preferences, circumstances, and values into consideration to decide the next steps in a treatment plan (ACSQHC, 2017)

Shared Decision Making and Empowerment

Based on the earlier definition of women's empowerment, shared decision making is crucial to empowering women in a healthcare setting. The benefits of involving women in their own healthcare decisions are further discussed in the women's empowerment document, especially how there are benefits for the entire family and community where the women live.

Benefits of Shared Decision Making

When pregnant mothers are able to participate in shared decision making with regards to their health, they have more overall positive childbirth experiences. The World Health Organization recommends the implementation of respectful maternity care, part of which includes informed choice and continuous support during and post

labor. This creates an environment where women are clinically, emotionally, and psychologically safe and empowered to express their needs and wishes for their healthcare (Homer et al., 2021).

Learn More

Shared decision making is an important part of patient-centered care and empowering women. The SolarSPELL library has additional resources and educational materials on evidence-based practice that can be found using the key words: *Midwifery, Patient-Centered Care, Shared Decision Making, Women's Empowerment,* and *Women's Health.*

Citations

Homer, C., Bohren, M., Wilson, A., & Vogel, J. (2021, February). *Achieving Inclusive and Respectful Maternity Care*. Global Library of Women's Medicine. https://www.glowm.com/article/heading/vol-3--elements-of-professional-care-and-support-before-during-and-after-pregnancy--achieving-inclusive-and-respectful-maternity-care/id/411763#.YLj9GPlKg2y.

Shared Decision Making an Overview. (2017, November 14). ACSQHC. https://www.youtube.com/watch?v=kKn4TOAqQfY.

Spousal Involvement

What is Spousal Involvement

Spousal involvement can come in many forms, such as emotional support, assisting with household duties and childcare, or attending pregnancy checkups and birth.

The Importance of Spousal Involvement

The literature shows that social support, both emotional and tangible, is linked to better pregnancy outcomes for both the mother and child. Support from providers in the form of education related to pregnancy and sexual health can decrease physical complications during the labor and delivery period. The support of a spouse specifically, can lead to a lower risk for complications and better post-delivery health for the mother and child. When the spouse is willing to support their partner emotionally, as well as physically, it empowers the mother to be able to focus on her health and the health of the child (Gjerdingen et al., 1991).

Benefits of Spousal Involvement

Mothers with greater spousal support have been found to have more positive attitudes and behaviors at 1 and 4 months postpartum. Emotional support from a partner had overall positive effects on maternal health (Crnic et al., 1983). Spousal support both emotional and tangible leads to lower risk of pregnancy complications and better health for mothers and infants in the postpartum period (Gjerdingen et al., 1991). Social support was shown to aid in moderating the negative effects of stress on mother's life satisfaction and infant interactive behavior (Crnic et al., 1983).

Learn More

Spousal involvement is beneficial to women, their children, and whole families. The SolarSPELL library has additional resources and educational materials on spousal involvement and the role a father can play that can be found using the key words: *Midwifery, Spousal Involvement, Women's Empowerment,* and *Women's Health.*

Citations

Crnic, K., Greenberg, M., Ragozin, A., Robinson, N., & Basham, R. (1983, February). *Effects of Stress and Social Support on Mothers and Premature and Full-term Infants*. Child Development. https://pubmed.ncbi.nlm.nih.gov/6831987/.

Gjerdingen, D., Froberg, D., & Fontaine, P. (1991, July). *The Effects of Social Support on Women's Health During Pregnancy, Labor and Delivery, and the Postpartum Period. Family Medicine*. https://pubmed.ncbi.nlm.nih.gov/1884933/.

Patient and Family Education

Educating Women and Families

Overall, it has been shown that with increased education regarding pregnancy and reproductive health, women are less anxious and feel more comfortable during their clinic visits. The Global Library of Women's Medicine recommends individualized education and emotional support throughout the duration of the pregnancy. Education regarding family planning, routine prenatal care, normal and abnormal signs in pregnancy, and the importance of social support (Welch et al., 2008).

Using the SolarSPELL Health Library for Education

All of the resources in this education module are accessible in the SolarSPELL Health library. The videos in this module, along with other patient focused resources in the library can be utilized to educate mothers and families on reproductive health and spousal support should you choose to do so. Much of the women's health content in the library is specifically created with women's healthcare in East Africa and the resources available to rural practitioners in mind.

Citations

Welch, L., & Miller, L. (2008, October). *Emotional and Educational Components of Pregnancy*. Global Library of Women's Medicine. https://www.glowm.com/section-view/item/414#.YLgXLPIKg2y.

Conclusions

Key Points:

- Care that is based in evidence can improve the quality of healthcare patients receive, and ensure that the care provided is safe, effective, and efficient.
- Women's empowerment is a modern movement in healthcare aimed at increasing positive outcomes for women's health, which also has positive effects on families and communities.
- In patient-centered care, healthcare providers and patients are partners. When patient-centered care is implemented, the focus of healthcare decisions are an individual's unique health needs and desired health outcomes.
- Shared Decision Making is crucial to empowering women in a healthcare setting and is an important part of patient-centered care.

- When the spouse is willing to support their partner emotionally, as well as physically, it empowers the mother to be able to focus on her health and the health of the child.
- Overall, it has been shown that with increased education regarding pregnancy and reproductive health, women are less anxious and feel more comfortable during their clinic visits.

APPENDIX II

VIDEO TRANSCRIPTS

Voluntary Family Planning: Saving Lives, Empowering Women and Building Stronger Communities

(Video Transcript)

More than 215 million women want, but do not have, access to quality reproductive health services.

Life is very hard. Very, very hard for women because we live in a patriarchal society.
There is at least thirty percent of the population that is willing to use contraceptive, is looking for it, but can't find it.

We do need family planning. We do want family planning. It is necessary.

In developing countries, pregnancy and childbirth complications are the leading cause of death among women in their reproductive years.

She had had her ninth pregnancy and the midwife told her she couldn't carry any more children. She goes back to her village and she looks for all the family planning methods in and around her village, and she couldn't find any. And there she was four months later with a baby, but the sister told me that she later died and her baby died. So she leaves all these 9 children in a very impoverished situation and nobody to take care of them.

Increased access to voluntary family planning would decrease maternal deaths by 32% and infant mortality by 10%.

A healthy mother will raise a healthy family and with that you get a healthy country.

In Uganda, for the country to go forward or for Africa in general, I think we need to invest in our women.

When a woman has access to family planning, I think it will lead us into a happier and healthier world.

Citations

Voluntary Family Planning: Saving Lives, Empowering Women and Building Stronger Communities. (2011, July 11). UN Foundation. https://www.youtube.com/watch?v=CcomXke0cnQ.

The Role that the Father Can Play

(Video Transcript)

The role that the father can play.

Pregnancy is tiring for the mother and can be stressful too.

The father should be supportive to her, discuss heer pregnancy with her, encourage her to eat healthy foods, and help her with the housework.

He should be aware of the warning signs the mother might display if she is encountering problems with her pregnancy.

If possible, he should visit the clinic with her when she goes for antenatal checks - and also be with her, if he can, when she is giving birth.

When the baby is born the father should learn how to bathe, feed, change, and hold the baby. He should also try to understand its needs.

He should support the mother in her choice of how to feed the baby. Breastfeeding is best for the baby, but the mother should choose.

Citations

The Role that the Father Can Play. (2014). Global Library of Women's Medicine. https://www.glowm.com/resource-type/resource/health-care-workers/title/the-role-that-the-father-can-play/resource-doc/575.

Shared Decision Making an Overview

(Video Transcript)

In this short video we're going to talk about shared decision making, what it is, why it's important, and some of the ways it can be incorporated into clinical practice.

We're also going to look at what decision support tools are and how they can facilitate shared decision making.

Shared decision making is where a clinician and patient jointly make a health decision.

Shared decision making involves a patient and clinician discussing options, the risks and benefits of each option, and the patient's personal preferences, circumstances, and values. What matters to them [the patient] and then deciding on the next steps together.

Shared decision making is not a single step added to the end of a consultation, it's a process. It's about a conversation between clinicians and patients when a decision about a test or a treatment needs to be made.

Shared decision making enables clinicians to combine their knowledge in evidence-based medicine and skills in patient centered communication to make a joint health decision with the patient.

The benefits of using shared decision making include: improved patient knowledge, risk perception, and patient-clinician communication.

Shared decision making can also reduce the conflict that a patient may feel when making a decision and feeling uninformed.

We know that patients want the opportunity to participate in decision making and they want to be provided with evidence that is easy to understand and act on.

Citations

Shared Decision Making an Overview. (2017, November 14). ACSQHC. https://www.youtube.com/watch?v=kKn4TOAqQfY.

APPENDIX III

EVALUATION SURVEYS

Evidence-Based Practice Beliefs Scale

Sixteen statements related to evidence-based practice are listed below. For each statement please indicate how much you agree or disagree, based on how often you performed each item in the last 8 weeks. For each item, the options are "strongly disagree", "somewhat disagree", "neutral", "somewhat agree", and "strongly agree".

1. I am sure that I can implement EBP in a time efficient way.
2. I am sure that I can implement EBP.
3. I believe that I can search for the best evidence to answer clinical questions in a time efficient way.
4. I am confident about my ability to implement EBP where I work.
5. I believe that I can overcome barriers in implementing EBP.
6. I am sure about how to measure the outcomes of clinical care.
7. I know how to implement EBP sufficiently enough to make practice changes.
8. I am sure that I can access the best resources in order to implement EBP.
9. I am sure that implementing EBP will improve the care that I deliver to my patients.
10. I believe that critically appraising evidence is an important step in the EBP process.
11. I am clear about the steps of EBP.
12. I am sure that evidence-based guidelines can improve clinical care.
13. I believe that EBP results in the best clinical care for patients.
14. I believe the care that I deviver is evidence-based.
15. I believe EBP is difficult. (reverse scored)
16. I believe that EBP takes too much time. (reverse scored)

Self-Efficacy in Patient Centeredness Questionnaire

Twenty seven statements related to patient-centered care are listed below. For each statement please indicate how confident you are that you will be able to make the patient experience the particular behavior listed. For each item, the options are "to a very low degree", "to a low degree", "neutral", "to a high degree", and "to a very high degree".

1. Make the patient feel that I am genuinely interested in knowing what he/she thinks about his/her situation.
2. Make the patient feel that I have time to listen.
3. Recognize the patient's thoughts and feelings.
4. Be attentive and responsive.
5. Be aware of when the patient is scared or concerned.
6. Treat the patient in a caring manner.
7. Make the patient experience me as empathetic.
8. Make the patient feel that he/she can talk with me about confidential, personal issues.
9. Show a genuine interest in the patient and his/her situation.
10. Focus on compassion, care and symptomatic treatment, when there is no curative treatment.
11. Record a complete medical history.
12. Reach agreement with the patient about the treatment plan to be implemented.
13. Advise and support the patient in making decisions about his/her treatment.

14. Ensure that the patient makes his/her decisions on an informed basis.
15. Explain the diagnosis and treatment plan to the patient so that he/she understands.
16. Explain things so that the patient feels well-informed.
17. Inform the patient about the expected side effects, so the patient understands them.
18. Explain how the treatment works or is expected to work.
19. Explain how the treatment is likely to affect the patient's condition, so that the patient understands.
20. Explain the treatment procedures, so that the patient understands them.
21. Accept when there is no longer curative treatment for the patient.
22. Be aware of when my own feelings affect my communication with the patient.
23. Deal with my own emotional reactions when the situation is difficult for me.
24. To maintain the relationship with the patient when he/she is angry.
25. To stay focused on what is best for the patient if there is a professional disagreement about the diagnosis and treatment.
26. Avoid letting myself be influenced by preconceptions about the patient.
27. Separate my personal views from my approach in the professional situation.

The 9-item Shared Decision Making Questionnaire

Nine statements related to the decision-making are listed below. For each statement please indicate how much you agree or disagree, based on your most recent consultation. For each item, the options are "completely disagree", "strongly disagree", "somewhat disagree", "somewhat agree", "strongly agree", and "completely agree".

1. I made clear to my patient that a decision needs to be made
2. I wanted to know exactly from my patient how he/she wants to be involved in making the decision.
3. I told my patient that there are different options for treating his/her medical condition.
4. I precisely explained the advantages and disadvantages of the treatment options to my patient.
5. I helped my patient understand all the information.
6. I asked my patient which treatment option he/she prefers.
7. My patient and I thoroughly weighed the different treatment options.
8. My patient and I selected a treatment option together.
9. My patient and I reached an agreement on how to proceed.

Patient Education Competence Scale for Registered Nurses

Twenty four statements related to patient education are listed below. For each statement please indicate your confidence in educating patients based on the situations described in each question. For each item, the options are "no ability", "mostly incapable", "somewhat incapable", "neutral", "somewhat capable", "mostly capable", and "fully capable".

1. Can discuss with learners about learning content and use an interactive discussion and counseling approach focusing on the needs, problems, or feelings of the patient and significant others to enhance coping, problem-solving, and self-care.
2. Can provide learners with demonstrations, so it is easy and quick for them to learn such items as content and procedures, thinking appraisal, and behavior and attitudes .
3. Can provide positive and appropriate real situations for learners to be able to practice.
4. Can show a positive attitude, mood, thinking, and behavior when teaching.
5. Can cooperate with the patient and significant others so they can achieve the desired learning objectives.
6. Can collaborate with medical team members to help the patient and significant others achieve their learning goals.
7. Has the ability to judge and reason about the disease and related precautions for the patient.
8. Teaching content is based on evidence.
9. Has the ability to solve patient problems.

10. Can evaluate and understand the learning effects on learners, such as the patient's knowledge, self-efficacy, coping, problem-solving, behavior change, self-care, health status, or quality of life.
11. Can use appropriate measurement methods and tools to evaluate the learning effectiveness of learners.
12. Can elicit timely and appropriate feedback from learners to determine if their understanding is correct or not.
13. Can use results from teaching to revise teaching methods or processes.
14. Can assess patients' health problems and identify the learning needs of targeted patients and their caregivers.
15. Can assess and understand learners' motivations.
16. Able to assess the impact factors of learning self-care; for example, emotional states, preconceptions, lack of motivation, do not know how to do it).
17. Can assess and understand learners' cognition, learning ability, and experience. Teaches by using words that learners can understand.
18. Can set the learning objectives based on the needs and problems of the learners.
19. Can set the teaching goals for the knowledge, skills, behaviors, and attitudes of patients and their caregivers and make learners understand these goals.
20. Can stress the importance of learning content so that the learners understand and enhance motivation.
21. Can use an appropriate, undisturbed environment to teach learners.

22. Can choose effective methods and strategies to teach or solve problems for patients and significant others (such as directions, discussions, demonstrations and return demonstrations, videos, simulations, empowerment, and problem-solving methods).
23. Teaching materials are suitable for the patients.
24. Can develop an empowerment strategy to empower learners, so the patients have the responsibility and confidence to actively participate in their own care plan.

Provider Views on Women's Empowerment

Seven statements related to women's empowerment in healthcare are listed below. For each statement please describe your beliefs and willingness to practice the listed item.

1. Asking patients how involved in decision making they would like to be.
2. Telling patients that there are different options for maternity care.
3. Explaining to patients the advantages and disadvantages of maternity care options.
4. Helping patients understand all information provided.
5. Giving patients time to thoroughly consider the different maternity care options.
6. Allowing patients to choose what they consider to be the best care options.
7. Respecting patients' choices.

Provider Views on Spousal Involvement

Seven statements related to spousal involvement are listed below. For each statement please describe your beliefs about each item and how often you observe each behavior listed.

1. Spouses attending pregnancy related care visits.
2. Spouses attending general women's healthcare visits.
3. Spouses participating in family planning.
4. Spouses assisting in household chores.
5. Spouses assisting with childcare.
6. Spouses being emotionally supportive of their partners during pregnancy.
7. Spouses being educated on the pregnancy and birthing process.