PELVIC HEALTH FITNESS AND EDUCATION:

A SIX-WEEK FITNESS PROGRAM FOR INCONTINENCE KNOWLEDGE AND PREVENTION

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DEDICATION

To my spouse and four supportive children who showed never-ending patience and a keen willingness to pick up the slack.

ABSTRACT

Urinary incontinence (UI) is associated with devastating consequences and is highly prevalent in women. Conservative measures can effectively prevent and treat UI, although women have little knowledge about these treatments. Practice guidelines for the treatment of UI advocate for the increased education of women on UI and its treatments as well as promoting conservative efforts in community settings. Nurse-led educational efforts are effective and cost-effective methods of addressing UI. Nurses are in an excellent position to provide UI education in community settings. Advancing pelvic health nursing in the community will increase access to care and promote the prevention and treatment of UI.

This program combines pelvic health education and fitness to be administered in community fitness facilities. The curriculum is designed to increase women's knowledge about urinary incontinence and its treatments, increase self-efficacy to manage urinary incontinence and decrease the stigma associated with it. This program has been guided by Bandura's theory of self-efficacy to increase women's capacity to self-manage their pelvic health.

The program was adapted due to fitness instructor staffing shortages and the education portion of the program was implemented on its own as a pelvic health seminar for women. Evaluation of the program was completed using a paper or online survey before, immediately after, and at one-month after the seminar. There was a statistically significant increase in women's knowledge of pelvic health and a decrease in stigma associated with UI immediately after the program. This was maintained at the one-month evaluation. Verbal feedback from participants was overwhelmingly positive showing women appreciated having the ability to access health education of this nature in more community settings where they can bypass needing to see their physician or a specialist practitioner. This program fills a noted gap in the

literature advancing nursing practice in pelvic health. It also answers the National Institute for Health and Care Excellence's (NICE) call to action to increase UI education for women provided in community settings. Having nurses provide increased education and access to care is vital to maintaining efficiency in our healthcare system and will relieve long waitlists for specialty practitioners.

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LIST OF ABBREVIATIONS

ADL	Activities of Daily Living
AHRQ	Agency for Healthcare Research and Quality
ARECCI	A Project Ethics Community Consensus Initiative
I-QOL	Quality of Life of Persons with Urinary Incontinence Tool
MUI	Mixed Urinary Incontinence
NICE	National Institute for Health and Care Excellence
OAB	Overactive Bladder
PFME	Pelvic Floor Muscle Exercises
PFMT	Pelvic Floor Muscle Exercise Training
SOGC	Society of Obstetricians and Gynecologists of Canada
SUI	Stress Urinary Incontinence
UI	Urinary Incontinence
UUI	Urge Urinary Incontinence

CHAPTER 1: INTRODUCTION

An estimated 15 percent of the global population, over one billion people, suffer from urinary incontinence (UI) (Cygańska et al., 2018; Macrotrends, 2022). That is over 31 times the entire population of Canada (Data Commons, 2020)! UI, or involuntary leakage of urine (McClurg et al., 2017; Stenzelius et al., 2015), has multiple negative health consequences and is associated with depression, social isolation, decreased quality of life, negative body image (McClurg et al., 2017; Nightingale, 2020; Ontario Health, 2021). It also creates drastic strains on the health care system (Lukacz et al., 2017; McClurg et al., 2017; Stenzelius et al., 2015). Estimates report that UI care costs are multimillions of dollars annually (Balk E, 2018; McClurg et al., 2017). As UI increases with age, global population trends indicate that the prevalence of incontinence will increase over the coming years adding a significant health, social, and economic burden to health care systems worldwide (Cygańska et al., 2018; Fricke et al., 2021).

UI is more common in women (Albers-Heitner et al., 2011; Fricke et al., 2021) and many do not seek treatment. It is estimated that only approximately 20-25 % of women who suffer from UI seek treatment (Lukacz et al., 2017; McClurg et al., 2017). Minimal treatment-seeking behaviour is attributed to a general lack of knowledge among women about UI, stigma, and embarrassment (Ng Pooi Yee et al., 2010; Wang et al., 2015; Xiaojuan Wan, 2014). Additionally, there is a lack of knowledge among women about UI and its treatments (Cygańska et al., 2018; National Institute for Health and Care Excellence, 2021). This is detrimental as UI can be progressive, meaning symptoms worsen when not addressed. It also becomes more difficult to treat with increased severity (Albers-Heitner et al., 2011).

Numerous effective options exist to prevent and treat UI. Regular exercise and maintaining a healthy weight are associated with decreased risk for UI (Lamerton et al., 2021), however, UI

has been shown to stop women from engaging in physical exercise (Dakic et al., 2021), compounding the problem.

Since UI is highly treatable and preventable and there is a deficiency in knowledge among women (Cygańska et al., 2018), health recommendations call for increased education about UI, targeted to women of all ages (National Institute for Health and Care Excellence, 2021). Additionally, because UI can stop women from engaging in recreational physical activities that promote health, it is recommended that UI education be part of routine fitness programs (Bo & Morkved, 2014; National Institute for Health and Care Excellence, 2021).

1.1: PROBLEM

Despite being preventable and treatable with cost-effective conservative treatments, many women silently suffer from UI and few seek treatment due to stigma, embarrassment, or misunderstanding. Lack of treatment-seeking can perpetuate or worsen symptoms of the disorder. This is a problem because of UI's weighty tax on an already overstressed healthcare system, while its prevalence is only expected to increase.

1.2 PROJECT RATIONALE

This project was completed in fulfillment of the University of Lethbridge Master of Nursing requirements. The originally proposed project was a six-week combined education and exercise program administered at a local fitness facility. The program was based on the successful pilot program by Cera (2019). In Cera's project, a nurse practitioner educational session was implemented in a community fitness facility. The purpose of this program was to increase women's knowledge about, self-efficacy in managing, and treatment-seeking behaviour

for symptoms of, UI. The pilot program by Cera (2019) successfully achieved these goals, as well as decreased UI symptoms in participants.

Increased knowledge and early treatment of symptoms will decrease the severity or onset of UI and reduce the burden on the healthcare system. Additionally, facilitating an open dialogue on the topic in community settings can decrease stigma and barriers to seeking treatment (Cygańska et al., 2018). Incorporating pelvic health information into fitness facility programming will enable women to continue to exercise regularly, preventing an additional onslaught of negative health consequences and further decreasing health care expenditures. Furthermore, providing access to UI information in settings other than healthcare can reduce barriers to accessing care, making this vital knowledge more accessible to women.

Nurses are in an excellent position to facilitate the advancement of pelvic health education and increase access to treatment (Cera, 2019). Conservative measures to prevent and treat UI can effectively be taught by nurses (Moore et al., 2003). Historically, symptomatic women have needed a referral to gynecology and urology specialties to access pelvic health information and treatment. There are often shortages of these specialty practitioners and long waitlists to be seen (Cera, 2019). There are more nurses than physicians and specialists. Positioning pelvic health nurses in community settings will increase access to education and treatment, decrease waitlists, and provide cost-effective access to preventative care.

CHAPTER 2: LITERATURE REVIEW

A rigorous literature review was undertaken to ensure the program was established on an evidence-based foundation. To facilitate the effectiveness of information gathering, the PICO framework was utilized (Echevarria & Walker, 2014; Santos et al., 2007).

2.1 PICO

The components of the PICO framework were as follows:

Population: Adult women AND Adult women suffering from urinary incontinence AND Adult women who attend fitness facilities and are physically active. Because UI is treatable and preventable, all women will benefit from an increased understanding whether they have symptoms or not. Since UI can stop women from engaging in physical activity, it is important to pre-emptively include physically active women in the target population to prevent the onset or worsening of symptoms. The program was administered in a fitness facility, therefore, women who attend such facilities must be included as well.

Intervention: Nurse-led education on conservative management AND Conservative measures used to treat UI. Conservative measures are included in the search as they inform the educational curriculum of the program. The nurse-led education portion of the literature review informs the deliverable components of the program.

Comparison: No comparison group was included.

Outcomes: Increased understanding, increased self-efficacy, increased ability to self-manage, decreased stigma and increase in seeking treatment from practitioners.

2.2: LITERATURE REVIEW METHODOLOGY

Databases Medline via Ovid and CINAHL were searched as these databases include many nursing-focused articles and this project was a nurse-led intervention. Search terms used were ‘urinary incontinence’, ‘conservative treatment’, ‘nurs*’, ‘health/patient education’, ‘physical therapy/exercise therapy’, ‘weight loss’, ‘behaviour training’ and ‘cholinergic antagonist’. Additional search terms used were ‘physical fitness/exercise/fitness’ AND ‘urinary incontinence’ AND ‘women/female/woman’. These search terms were used to guide the fitness portion of the program curriculum. An additional search phrase was ‘nurse-led education for incontinence management’.

Terms were cross-referenced and the search was further limited with filters of the female gender, English language, the year 2010 to current, scholarly journals, and geographical location of Europe, the USA, Canada, Australia and New Zealand. Filters were utilized to ensure current data was used to guide program development as well as geographical locations of a similar economic and developing situation to Canada. A scholarly journals filter was used to ensure evidenced-based literature.

To ensure that the rapid review of the current literature included a community health project-minded focus the databases TRIP and Health Evidence were also searched. These databases are focused on public health program guidance. Articles from these databases were limited to sources from the highest level of evidence, according to the General sites for public health research evidence 6S pyramid (National Collaborating Centre for Methods and Tools, 2017), which were syntheses and above.

Articles were excluded that were solely about fecal incontinence, surgical interventions, male incontinence (post-prostatectomy), pediatric patients, and pregnancy-related incontinence. The reason for not including these articles is to ensure data is targeted to the outlined population

of adult women and conservative treatment of UI. A total of 39 articles were selected after exclusion criteria. Articles were sorted according to their category on the public health research evidence 6S pyramid (National Collaborating Centre for Methods and Tools, 2017), see figure 1.

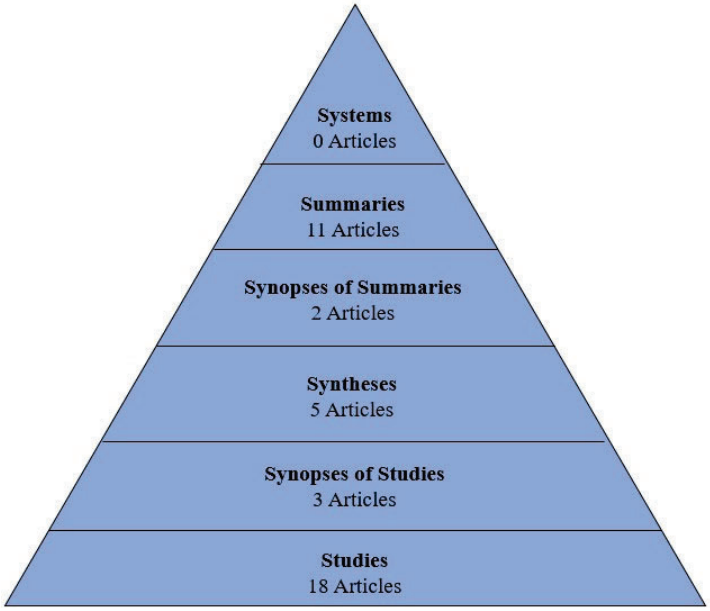

Figure 1: 6S Pyramid Article Sorting

2.3: SYNTHESIS OF THE EVIDENCE

A considerable proportion of the literature was devoted to practice guidelines about the conservative management of UI and best practice. This provides essential background and ensures that conservative measures taught in the program were following best practice guidelines. There was limited literature on nurse-led interventions aimed at increasing knowledge about UI or assisting with conservative management of UI, as well as on fitness and its effects on UI. Background information on UI will now be discussed.

2.3.1: URINARY INCONTINENCE

UI is a dysfunction of the pelvic floor (National Institute for Health and Care Excellence, 2021) and consists of involuntary loss of urine (McClurg et al., 2017; Stenzelius et al., 2015). Risk factors associated with UI include being female, post-menopausal, pregnant or having previous childbirth, history of traumatic childbirth, previous gynecological surgeries, obesity, constipation, smoking, heavy physical work, lack of exercise and chronic cough (Bauer et al., 2021; Bokne et al., 2019; Cygańska et al., 2018; Fricke et al., 2021; National Institute for Health and Care Excellence, 2021). Urinary incontinence can be broken down into three different types of incontinence (Balk E, 2018). Stress urinary incontinence (SUI), consists of loss of urine during episodes of increased intraabdominal pressure or impact such as coughing, sneezing, or running and jumping (McClurg et al., 2017; McKertich, 2008). Urge urinary incontinence (UUI), is leakage of urine associated with a strong urge to go to the bathroom (McClurg et al., 2017; McKertich, 2008). Women usually leak urine on their way to the toilet. Mixed urinary incontinence (MUI) is a combination of both SUI and UUI (McClurg et al., 2017; McKertich, 2008; Wu et al., 2015). The majority of practice guidelines assert that assessment of a women's type of UI is essential to guiding treatment.

2.3.2: TREATMENT

UI has been categorized by the World Health Organization as a lifestyle disease, with other disorders such as diabetes and obesity, alluding to the preventable and treatable nature of this disorder (Cygańska et al., 2018). In fact, many of the conservative treatments for UI include lifestyle modifications. The main treatments for urinary incontinence are categorized as conservative (non-surgical) and surgical treatments. Since all treatments are highly effective it is considered best practice to initiate conservative measures as the first line of treatment as it is more cost-effective and can also reduce the need for surgical intervention (NICE Guidance,

2019). Additionally, the majority of UI patients note a preference for non-surgical management of their care (Ontario Health, 2021).

2.3.2.1: CONSERVATIVE TREATMENT

Conservative measures are highly effective at treating all subtypes of UI, but treatments should be tailored to a women's type of incontinence (National Institute for Health and Care Excellence, 2021). If conservative measures fail, then women should be referred to specialists for more aggressive forms of treatment, such as surgery. The Society of Obstetricians and Gynecologists of Canada (SOGC) practice guideline defines conservative treatment measures as "any therapy that does not involve medication or surgical treatment, including lifestyle interventions, physical therapies, scheduled voiding regimes, complementary and alternative medicines, and mechanical devices such as incontinence pessaries" (Dufour & Wu, 2020, p. 513). However, the Agency for Healthcare Research and Quality (AHRQ) includes several forms of conservative treatments which are divided into first, second, and third-line approaches. These approaches are typically prescribed in numerical order (Balk E, 2018). First-line treatments include pelvic floor muscle exercises, behavioural training, vaginal inserts, and risk reduction. Second-line treatments include medications such as anticholinergic medications and hormone medications. Third-line treatments include neuromodulation and periurethral bulking agents. The National Institute of Health and Care Excellence (NICE) categorizes UI treatments into non-surgical and surgical (National Institute for Health and Care Excellence, 2021; NICE Guidance, 2019). For this project, I considered conservative measures all non-surgical treatments including medications and third-line treatments such as bulking agents.

As one of the project goals was to increase women's knowledge and awareness of the treatments available to them, I did not limit which treatments to teach about, as best practice

asserts that the patient should guide the direction of their care (Hutchinson et al., 2020). Increasing women's understanding of the treatments available only serves to increase their ability to make informed decisions and follows practice guideline recommendations to increase women's awareness of the treatments for UI. Additionally, while most conservative interventions in the literature show increased satisfaction, women's goals and expectations with treatment vary, suggesting that *each* intervention may be appropriate for different women (Balk E, 2018). This highlights the importance of educating women on various conservative interventions that will work best for their lifestyle and goals. While it is important to include all available forms of conservative treatment in education for women, the program's goal to increase the self-efficacy of women to self-manage their care directed my focus. Therefore, while all conservative measures were touched on, the primary focus of the program education was on on conservative measures that women could implement on their own, without needing to seek medical assistance or referral. This empowers women to act and self-manage their symptoms of UI. Different types of conservative treatments will now be reviewed.

2.3.2.1.1: PELVIC FLOOR MUSCLE EXERCISES

Pelvic Floor Muscle Exercises (PFME) consist of repetitive contractions and relaxation of the pelvic floor musculature (Dumoulin et al., 2015) to increase muscle strength, endurance, and volume and to better support the pelvic organs (Bokne et al., 2019; HANDI, 2014). PFME can be effectively taught verbally, through reading a module, or even through a virtual online program (Bokne et al., 2019; Cera, 2019; Fricke et al., 2021; Wu et al., 2021) and all women should be encouraged to perform them regularly throughout their life to prevent pelvic floor dysfunction (National Institute for Health and Care Excellence, 2021). However, for the treatment of UI, supervised Pelvic Floor Muscle Exercise Training (PFMT) is more effective

than unsupervised or standalone programs (Dufour & Wu, 2020). PFMT consists of a program using PFME taught and supervised by a health professional, most commonly a certified physiotherapist, with expertise in pelvic health (Dumoulin et al., 2015; National Institute for Health and Care Excellence, 2021). Sometimes PFME programs offered by health professionals will entail biofeedback, where the practitioner or the patient can convey if they are engaging the right muscles, either by digital exam or device. Literature supports the most successful PFMT programs are supervised by health practitioners with the option of using biofeedback when necessary. PFMT is highly effective at treating SUI and MUI (Dumoulin et al., 2015; Fricke et al., 2021), but the evidence is less strong concerning its treatment of UUI (Berghmans et al., 2000). Despite its shown effectiveness, women have limited knowledge about pelvic floor exercise interventions available. Increasing women's awareness of this intimate topic is highly recommended (Cygańska et al., 2018; National Institute for Health and Care Excellence, 2021).

Literature supports the use of PFMT as the initial treatment for pelvic dysfunction, specifically for SUI and MUI and encourages women to utilize a three-month physiotherapy-guided program when able (Center for Effective Practice, 2020; Dufour & Wu, 2020; HANDI, 2014). Although not as effective as supervised, unsupervised training programs also show a reduction in UI (Bo & Morkved, 2014; Wu et al., 2021). PFME is cost-effective when compared with more invasive treatment interventions, such as surgery, and has been shown to decrease the need for surgery (Nambiar et al., 2018; Neumann et al., 2005). Evidence also shows group sessions are just as effective as individual sessions for PFMT (Dumoulin et al., 2020; Nambiar et al., 2018), further supporting the cost-effectiveness of this intervention.

2.3.2.1.2: RISK REDUCTION

Risk reduction is also called lifestyle modification in the literature. Risk reduction includes weight reduction, dietary modifications, smoking cessation, and engaging in regular exercise. Weight loss counselling for UI patients who are considered overweight or obese or have a BMI of greater than 30 is recommended (Lamerton et al., 2021; Lukacz et al., 2017; NICE Guidance, 2019). Weight reduction of 5-8% is associated with a significant reduction in UI symptoms (Dufour & Wu, 2020; Krause et al., 2010). It is uncertain why obesity is a risk factor for UI, but clinicians theorize that it is associated with increased intraabdominal pressure on the pelvic organs (Krause et al., 2010; Lamerton et al., 2021). Maintaining a healthy weight can be considered a preventative treatment for UI, and engaging in regular low-impact exercise is recommended to prevent or reduce UI as lack of exercise is a risk factor for it (Bauer et al., 2021; Lamerton et al., 2021; National Institute for Health and Care Excellence, 2021).

Dietary modifications to eliminate caffeine or other irritants to the bladder are associated with a reduction in urgency and frequency symptoms (Dufour & Wu, 2020). Patients should also be counselled to reduce or avoid smoking, carbonated beverages, alcohol, artificial sweeteners, and excess amounts of fluids, as these are triggers for UI (Lukacz et al., 2017; McClurg et al., 2017; NICE Guidance, 2019). The majority of practice guidelines recommend weight reduction counselling for overweight patients and caffeine reduction, or dietary modifications are offered as first-line treatments for women suffering from UI, regardless of the type of UI (Dufour & Wu, 2020; McClurg et al., 2017; Nambiar et al., 2018; National Institute for Health and Care Excellence, 2021).

2.3.2.1.3: BEHAVIORAL TRAINING

Behavioural training is sometimes used interchangeably with lifestyle modification interventions in the literature. For clarification, I have separated lifestyle modification

interventions (or risk reduction interventions) from behavioural training. In this paper, behavioural training interventions include toileting regimes, bladder training, and healthy bowel management. The literature asserts that behavioural training education for women is an effective treatment for UI. It is shown to be effective for all forms of UI, SUI, UUI, and MUI. Behavioural training is included in most UI practice guidelines as a first-line treatment recommendation, regardless of the type of UI, but can be most effective at treating UUI.

2.3.2.1.4: VAGINAL INSERTS

Vaginal inserts are items or devices inserted into the vaginal canal to provide support to the urethral tissue keeping it stable and closed (Nightingale, 2020). The most common type of vaginal insert is a pessary, which is usually made of medical-grade silicone and is fit by a health professional (Hooper et al., 2017). However, there are other items available over the counter that serve a similar purpose, and some women use a tampon to achieve the desired effect (Nightingale, 2020). Vaginal inserts are an effective treatment for SUI (Ontario Health, 2021). Vaginal pessaries have also been found to be a cost-effective treatment of pelvic floor dysfunction, including UI (Ontario Health, 2021). The majority of UI practice guidelines include vaginal inserts or pessaries as a recommended treatment for UI (Ontario Health, 2021). Some guidelines recommend pursuing pessary when previous conservative treatment measures (PFME, risk reduction, and behavioural training) have been unsuccessful, or patients do not want or cannot pursue surgery (Ontario Health, 2021).

2.3.2.1.5: MEDICATIONS

There are prescription medications available to treat UI. Patients must consult with their general health practitioner before trialling these treatments. Medications are divided into

treatments for UUI and SUI. Medications used to treat UUI are most commonly anticholinergic medications (Balk E, 2018). Medications used to treat SUI, alpha agonist medications, are not approved for use in Canada or the United States (Qaseem et al., 2014). The evidence suggests that using medications to treat UI is most effective for UUI symptoms. Medications are more effective when used in conjunction with behavioural training and risk reduction interventions. There are some adverse effects noted with anticholinergic use, the most common being dry mouth and constipation (Balk E, 2018; Center for Effective Practice, 2020). While these adverse effects are usually not serious, many patients consider them quite bothersome and there is a significant number of patients who discontinue use of these medications after approximately seven months of use (Qaseem et al., 2014).

Another form of prescription medication used in the treatment of UI is a hormone. Lack of estrogen in the genitourinary tract is a risk factor for UI, which is one of the attributed reasons that post-menopausal women have increased rates of UI. Vaginal estrogen is a prescription medication used to increase estrogen levels in the genitourinary tract and can decrease mild UI symptoms, specifically overactive bladder (Nightingale, 2020), however, its effectiveness is less than other medications for UUI (Balk E, 2018; Nambiar et al., 2018). Again, estrogen is more effective when used in conjunction with previously mentioned conservative interventions. Systemic estrogen should not be used to treat UI (Center for Effective Practice, 2020; Qaseem et al., 2014).

The majority of practice guidelines recommend the use of medications as second-line treatment, alone or in conjunction with first-line treatments for UI. Women should be educated that medications are more likely to be successful when used in conjunction with first-line interventions.

2.3.2.1.6: THIRD LINE TREATMENTS

Third-line interventions are treatments that require referral and monitoring from a specialist, such as a gynecologist, urogynecologist, or urologist. They are more invasive in nature than the previously described treatments and usually require some sort of procedure but are not surgery. Much of the literature recommends that less invasive conservative measures be trialled before proposing third-line treatments, nevertheless, women should be given the power to direct their care. The most common ones described in the literature are periurethral bulking agents, neuromodulation, onabotulinum toxin A or Botox injections, and intravesical pressure release (Balk E, 2018).

Third-line treatments for UI are effective and safe, albeit much more invasive than first- and second-line treatments. Additionally, because patients require referral to and monitoring by a health practitioner specialist, they are more difficult to access in Canada and potentially will involve a long wait before being seen.

2.3.2.2: SURGICAL TREATMENT

There are multiple effective surgical treatments for UI. Patients must be referred to and assessed by a specialist, usually a gynecologist or urogynecologist, to pursue surgical treatment (Lukacz et al., 2017). These procedures would be considered invasive and put an added cost on the health care system and therefore were not included in the program curriculum. Conservative treatments are considered more cost-effective and usually specialists recommend patients trial conservative or non-surgical interventions before implementing surgery (Hutchinson et al., 2020; NICE Guidance, 2019; Nightingale, 2020; Wu et al., 2015).

2.3.3: NURSE LED INTERVENTIONS

In a random control trial by Moore et al. (2003), nurse specialists with education in pelvic health and UI were compared with a urologist for conservative treatment of patients with UI. Conservative management utilized behaviour training and PFME. This study found no statistical difference in the success of the patients between the two groups. The patients taught conservative measures by the nurses had the same rate of success and reduction in UI as the group taught by urologists. However, the nurse-led group was more cost-effective when considering the wage difference between the two. In a study by Albers-Heitner et al. (2011), when nurse specialists were used in addition to general practitioners for the treatment of UI, the severity and impact of UI were decreased after correction for effect modifiers. In the pilot study noted previously by Cera (2019), nurse-led education efforts significantly decreased UI symptoms and increased the quality of life of participants. These results were maintained one-month post-intervention.

Much of the literature calls for increased education of women regarding conservative treatments available to them and a majority of practice guidelines stress the importance of spending time reviewing the treatment options available for UI. Nurses are in an excellent position to spend more time with patients, provide education, address concerns, and provide an initial assessment. Additionally, much of the first-line treatment options involve education and then women implement them on their own with support. There are more nurses available than physicians, and there are long waitlists to see specialist practitioners in Alberta. Involving nurses in patient education for UI will increase access to care, knowledge translation to the public, and increase the ability of women to initiate first-line treatment interventions without waiting to be seen by a specialist.

2.3.4: FITNESS AND UI

In an attempt to better understand the relationship between weight loss and decreased UI, Bauer et al. (2021) studied physical activity and its effects on UI. The authors found that higher physical activity levels among postmenopausal women are associated with lower risk for UUI and MUI, but not for SUI. This was also noted in the European practice guideline for UI management (Nambiar et al., 2018). High levels of exercise may be associated with a higher risk for SUI, as there are potentially higher numbers of UI among professional female athletes than in the general population (Nambiar et al., 2018). The relationship between physical activity and UI remains unclear, however, the relationship between weight loss and decreased UI in overweight or obese women is strong. Therefore, the majority of practice guidelines recommend implementing regular physical activity as part of conservative treatment for UI, and as part of weight-loss counselling for obese women suffering from UI (Balk E, 2018; Nambiar et al., 2018; National Institute for Health and Care Excellence, 2021; Qaseem et al., 2014).

Some studies have demonstrated a reduction in UI symptoms with physical activity interventions, especially in the frail elderly (Dakic et al., 2021; Fricke et al., 2021; Talley et al., 2017). However, many of these interventions also implement PFME as part of the program and so it is unclear if the reduction in UI is solely from the PFME. Additionally, increased activity has been shown to improve ADL function in frail elderly, and the resultant decrease in UI could potentially be attributed to decreased functional UI, or better mobile ability to get to the bathroom in time (Talley et al., 2017).

A recent systematic review looking at exercise interventions to improve pelvic floor functioning did find an increase in pelvic muscle tone and improvement of UI symptoms with all interventions (Fricke et al., 2021). Even indirect pelvic floor muscle strengthening exercises, which targeted surrounding musculature, noted increased pelvic floor functioning. Exercise

interventions were less successful when compared with supervised PFMT interventions that included biofeedback but were successful nonetheless (Fricke et al., 2021). There have been multiple studies looking at the effectiveness of alternative exercise regimes in reducing UI, that are not targeted PFME. Recently, Pilates, yoga, and Pall of Press exercises have shown effectiveness at the reduction in UI due to the total core strengthening (including the pelvic floor) associated with these regimes (Huang et al., 2011; Jose & Vijaya Kumar, 2020; Kannan et al., 2022). Additionally, bird dog, plank and leg lift exercises were found to have similar or more pelvic floor muscle contracture as a PFME (Siff et al., 2020). This was contradictory to an older systematic review which found that there was not yet sufficient evidence that alternate exercise programs other than PFME could reduce SUI (Bo & Hebert, 2013).

Although there is potentially a risk of contributing to SUI with high impact, rigorous physical activity, the benefits of physical activity outweigh the risk. Regular physical activity has multiple benefits in addition to lowering the risk for UI. Considering that UI causes women to stop exercising (Dakic et al., 2021), it is imperative to educate women on how to treat UI before the condition starts impeding their lifestyle. Exercises to help improve pelvic floor function should target core strengthening, be low impact, and should also target abdominal weight loss or general weight loss in women who are overweight (Fricke et al., 2021; Lamerton et al., 2021; Qaseem et al., 2014).

2.3.5: PATIENT EDUCATION

There is not much in the literature about the effectiveness of patient education in the reduction of UI. While we understand that conservative measures are highly effective at treating UI, data is lacking on interventions to increase women's awareness about UI and the available treatment options. It has been noted that women are woefully unaware of the treatment options

available to them (Cygańska et al., 2018), and are not seeking treatment for it due to misconceptions and embarrassment (Ng Pooi Yee et al., 2010). Practice guidelines call for increased education for women, but only the National Institute for Health and Care Excellence gives direction on how to provide this education (National Institute for Health and Care Excellence, 2021). They recommend that education be provided, not only in health care settings but also in community settings such as fitness facilities. In the pilot study by Cera (2019) that this program is modelled after, a continence care educational program was provided in a community-based fitness facility. This successful pilot supports the use of community-based nurse-led education efforts to increase knowledge about, self-efficacy in managing, and treatment-seeking for UI.

The pelvic health and fitness program attempts to fill a void noted in patient education on UI. Women need this health information to promote prevention and treatment. Providing pelvic health education through alternate avenues than traditional medicine, such as community centers, decreases barriers and encourages awareness. Patient education is a key component of nursing practice. Expanding the role of the pelvic health nurse to educate in community settings provides women exposure to the topic, increasing awareness and decreasing stigma.

2.4: THEORETICAL MODEL

The theory that guided the program was Bandura's theory of self-efficacy. The project aims were to increase knowledge and understanding of urinary incontinence conservative measures and for women to self-manage implementation in their own lives in the areas where they see fit. Self-efficacy is a construct of the Social Cognitive Theory, which believes that human behaviour is guided by forethought (Resnick & Jenkins, 2000; Resnick et al., 2000). This forethought is determined by self-efficacy (one's perceived ability to enact behavioural change)

and outcome expectancy (the perceived consequences of the proposed change) (Resnick & Jenkins, 2000; Resnick et al., 2000). In other words, when you believe you can do something and it will benefit you, you are more likely to perform the behaviour. Therefore, increasing self-efficacy is an effective means of achieving health behaviour change (Ghasemi et al., 2019; Lopez-Garrido, 2020; Schunck & Pajares).

The self-efficacy theory is supported in the literature as promoting women's adherence to home pelvic floor exercises and better outcomes of UI reduction (Shin et al., 2020; Wilde et al., 2014). This theory also assisted in achieving the program goal of changing the behaviour of women who do not seek treatment for UI. This was done by informing women of the positive consequences of conservative treatments and empowering them to make needed changes. The secondary goal of the program looked at supporting and empowering women to manage their care. Self-efficacy is an important part of this as well. Self-management of care has been linked to perceived self-efficacy and is an important part of health promotion (Karadag, 2019; Wilde et al., 2014). The program planned to increase women's perceived outcome expectancy of conservative measures to treat and prevent UI by providing education. Bandura asserts that there are specific factors that can affect self-efficacy (Lopez-Garrido, 2020).

This program implemented two measures proposed by Bandura to increase self-efficacy: 1. Using social or verbal persuasion or guidance. 2. Providing vicarious or observational experiences by social role models (Lopez-Garrido, 2020). Social or verbal persuasion or guidance can come in the form of advice or training from others such as peers, family, teachers, or health care professionals (Ghasemi et al., 2019), thus guiding the educational portion of the program and the teacher-student formatting. Vicarious or observational experiences involve observing people similar to oneself completing a task or observing a behaviour for learning

(Ghasemi et al., 2019; Lopez-Garrido, 2020; Resnick et al., 2000). Thus, the educational curriculum included personal case study experiences and advocated for the group setting of the class, so participants could see each other completing the exercises and engaging in UI discussion. Part of the educational class time was used to encourage social networking through allotted question and answer periods, and group learning discussions. The group discussion period was particularly helpful in showing women they were not alone in their symptoms. Using Bandura's theory of self-efficacy helped to guide and shape this program to ensure project goals were met.

2.5: FORMED CONCLUSIONS AND DISCUSSION

Although UI is extremely prevalent, has a vast number of negative impacts, and is costly to the health care system, women are not seeking treatment for it. Many conservative measures used to treat UI are highly effective, cost-effective, and generally minimally invasive. Conservative measures, including PFME, weight control, and regular physical exercise can not only treat but prevent the onset of UI. One of the negative impacts of UI is that it causes women to stop engaging in activities they enjoy, including exercise. General exercise has multiple known benefits and targeted muscle strengthening has been shown to reduce UI symptoms.

Nurse-led interventions to reduce UI are cost-effective options to reduce UI symptoms. In the literature, nurse-led interventions mostly consisted of educational efforts and were seen as successful means to reduce UI. Practice guidelines call for the increased education of women about UI and its treatments and encourage offering education in diverse settings, such as fitness facilities. Increasing women's awareness about UI can lower UI symptoms and increase treatment-seeking behaviours. This was highlighted in a successful pilot program using nurse-led education based in a community fitness center.

The majority of first-line conservative measures can be implemented on a patient's own with education. This is an important factor as health care systems in Canada remain weakened and overburdened from the Covid 19 pandemic. Encouraging self-managed care of UI symptoms is not only effective but will reduce the need to see the limited number of specialist health practitioners and will reduce waitlist times (Cera, 2019).

An expansive review of the literature supports the initiation of an education program based in a community fitness facility setting to increase women's knowledge about UI and encourage treatment-seeking behaviour as well as increase preventative behaviours such as general physical exercise and PFME.

CHAPTER 3: PROJECT DESCRIPTION

The originally proposed program was a combined educational and exercise program administered in the Lethbridge YMCA. The program was designed to be delivered over six weeks with weekly one-hour classes taught by a fitness instructor. The educational portion of the program would have been delivered digitally, by video, over approximately 15 minutes at the beginning of the hour of class time. The remainder of the class time would consist of approximately 45 minutes of guided exercise. This guided exercise was intended to consist of low-impact general fitness that targets strengthening the core and pelvic floor and promotes weight loss. The target audience would consist of adult women who attend the Lethbridge YMCA, women from the community who are interested in learning more about pelvic health, and women who are suffering from UI.

3.1: PROGRAM GOALS

Goal #1: To increase the understanding and self-efficacy of adult women in conservative treatment and self-management of UI.

Goal #2: To increase treatment-seeking behaviour for UI symptoms of adult women in the Lethbridge area.

3.2: CURRICULUM ELEMENTS

The education portion of the curriculum included information about aspects of UI prevention and management. Pelvic floor anatomy and physiology included the etiology of urinary incontinence and the different types of incontinence as well as prevalence and care-seeking behaviour (Cygańska et al., 2018; McClurg et al., 2017; National Institute for Health and Care Excellence, 2021). Risk reduction for UI included weight loss, elimination of dietary bladder

irritants, regular exercise, and smoking reduction/cessation (Dufour & Wu, 2020; National Institute for Health and Care Excellence, 2021). Behaviour therapy encompassed urge control techniques, toileting regimes, correct posturing for toileting, healthy bowel and bladder habits, and control of constipation (Balk E, 2018; Talley et al., 2017). Pelvic floor muscle exercises and physiotherapy were integrated (Dumoulin et al., 2015; Fricke et al., 2021; HANDI, 2014) as well as information on vaginal inserts (Ontario Health, 2021). Additional treatment options were also touched on and included medications (anticholinergics, estrogen), neuromodulation, bulking agents, and surgery. How to seek treatment, and assessment guidelines were also built into the curriculum (Balk E, 2018; Dufour & Wu, 2020; McKertich, 2008).

The fitness portion of the curriculum focused on core strengthening which included Pall of press, plank, bird dog, and leg lifts (Jose & Vijaya Kumar, 2020; Siff et al., 2020). Weight loss through cardiovascular exercise (Bauer et al., 2021; Lamerton et al., 2021) and abdominal weight reduction (Krause et al., 2010). Walking/low-impact aerobic movements, strength training, and yoga targeting the pelvic floor were also involved (Kannan et al., 2022; Talley et al., 2017). PFME were built into the curriculum (Fricke et al., 2021; Wu et al., 2021).

3.3: ASSUMPTIONS

Assumptions noted in the program included assuming that women are aware that the first 15 minutes of the class time were to be devoted to education on UI. This would have been noted in the program description upon registering for the course. It was also assumed that women who registered for the course were interested in learning more about pelvic health or UI, already had symptoms of UI, or wanted to prevent the onset of UI. It was assumed that women would be registering for the class and not men, as the program description also detailed that the course's purpose was for education and fitness for women.

3.4: PROGRAM LOGIC MODEL

Please see Appendix A for the program logic model. The logic model provides a visual program overview of process objectives, outcome objectives, strategies and activities utilized. Program deliverables included: Development of education curriculum and participant handouts, creation of education curriculum PowerPoint, development and distribution of marketing materials to recruit into the program, piloting of the program at the Lethbridge YMCA, collection and analysis of feedback and evaluation data.

Women were recruited into the program using promotional materials developed by the project manager and distributed in the YMCA and to other health areas such as doctors' offices, senior recreation facilities, and community settings such as local libraries and pools. Program deliverable took place at the Lethbridge YMCA and the University of Lethbridge fitness facility in a studio room with audio-visual capabilities. Program participants were required to register for the program beforehand. Registration was open to YMCA members, University staff and faculty, and community members. Women were able to call to register or register online through the facility's websites.

The originally proposed program would have consisted of 6 weekly one-hour classes that were comprised of part video education and part guided fitness by a YMCA fitness instructor. The rationale for implementing the program over six weeks was guided by the tight schedule for a Master of Nursing program project. Six weeks allowed for sufficient time to cover the education curriculum elements and allowed for completion of the program within an allotted semester. Collection of feedback within the allocated time for the program was also necessary to be included in the evaluation. There have also been other successful health promotion programs

offered over a six-week time frame, such as the community-based intervention by Tucker et al. (2019) which increased nutrition label health literacy.

The program manager developed the educational portion of the program to be delivered in the classroom and the fitness manager of the YMCA was to develop and teach the fitness portion of the program with input provided by the project manager to guide the fitness curriculum. Original plans were to have the educational material available by video, thus eliminating the need for two instructors and increasing the sustainability of the program. National Institute for Health and Care Excellence (2021) recommends when teaching women about pelvic health to include formats such as print, broadcast, online, videos and social media. Class size was limited according to YMCA and University input for classroom and program capacities. A group setting education for PFME has been found as effective as one on one sessions (Dumoulin et al., 2020), and education delivery formats have been found equally effective in online, video, or booklet formats (Bokne et al., 2019; Wu et al., 2021). Following Bandura's theory of self-efficacy, the curriculum included class time devoted to encouraging social connection and participation, such as the group discussion time offered at the end of the class.

3.5: ETHICAL CONSIDERATIONS

To ensure the ethical implementation of this program and to protect program participants, A Project Ethics Community Consensus Initiative (ARECCI) ethical screening tool was completed. There are multiple ethical risks involved with a program that provides a service, collects information, and involves participating in fitness and social activities. Therefore, the benefits of the program must be weighed against the potential risks. Ethical risks noted in the project were a teacher/student relationship, an inexperienced program lead, topics discussed that

may cause embarrassment or discomfort, collection of information of a sensitive nature, and breach of confidentiality that may cause damage to reputation.

While these were serious elements to be considered, there were many benefits associated with the program. Women increased knowledge about pelvic dysfunction, decreased stigma associated with UI, and increased treatment-seeking behaviour. All of these benefits have the potential to decrease UI symptoms, increase the quality of life, increase the ability to maintain physical activity, and reduce invasive or surgical interventions. These benefits far outweighed the ethical risks of the program. However, it is important to address all risks identified in the screening tool to ensure ethical practice.

Ethical risks were reduced by having experienced stakeholders on the program board to negate the inexperienced team lead. Patient identifiers were kept in a locked drawer off the program facility campus to ensure patient confidentiality. Program participants self-registered for the program with a previous understanding of the topic of the program, therefore, it was assumed that although the information discussed was sensitive, patients were self-seeking increased knowledge in this area. Additionally, participants were required to review a consent form before completing the evaluation surveys for the program. The consent form disclosed the sensitive nature of the topics included in the program that may make patients feel uncomfortable and let them know that they can withdraw from the program at any time. It disclosed the information being collected, for which purpose it was being collected, and how the collected information was safeguarded and used. With any teacher/student relationship there is a risk of power imbalance. To mitigate this risk, informed consent was collected before participation in the program. Participants were encouraged to interrupt the educator at any time to ask questions and voice their opinions, giving power back to the students. Additionally, an open discussion period was

built into the curriculum to allow participants the freedom to engage with the topic and each other.

CHAPTER 4: PROGRAM IMPLEMENTATION

This program was created and implemented in partial fulfillment of the program requirements for a Master of Nursing degree. As such, a strict timeline for implementation was required. In project planning, it is critical to keep an organized structure of tasks and when they are to be completed to ensure planned timelines can be accomplished and that implementation runs smoothly (Harris et al., 2016). To assist with prioritizing and managing duties involved with program implementation, planning timelines are highly encouraged (Harris et al., 2016). The Gantt chart is one such task and timeline development and monitoring tool. It is a visual table to help program planners stay organized and break duties into manageable quantities spread out over an identified timeframe (Slack, 2015). The Gantt chart tracks the progress of scheduled tasks toward the end or completion of a project in months (Harris et al., 2016; Slack, 2015). This was the chosen timeline tool used by the project manager for the implementation phase. Please see Appendix E for the created Gantt chart for the pelvic health, fitness and education project effected in 2022.

4.1: STAKEHOLDER ENGAGEMENT

Stakeholders are a vital component of any program and have the potential to enhance program success. McKenzie (2013, p. 12) defines stakeholders as “any person or organization with a vested interest in a program”. Appropriately engaging stakeholders should be part of program planning (McKenzie, 2013) to ensure they are involved with development, implementation and evaluation that is fitting for their distinct role. Additionally, consulting stakeholders from the target population or community that the program is serving, helps ensure that the program goals are in line with the ideals of the community (Harris et al., 2016; McKenzie, 2013) and that the program management values are not overshadowing the desires of

the target population (Wennerstrom et al., 2018). Furthermore, having stakeholders with specific attributes to assist with the functioning of the program helps to ensure a well-rounded program where the diverse needs of the program can be overseen (Harris et al., 2016). This section outlines the stakeholder engagement strategy for the pelvic health and fitness program.

4.1.1: STAKEHOLDERS

The needed stakeholders were identified through the necessities of the program and required inputs. The stakeholders identified for the pelvic health and fitness program included specialists in pelvic health to facilitate an expert review of the educational portion of the curriculum. Additionally, stakeholders were needed that could facilitate the fitness portion of the program as well as the venue for the program.

Identified stakeholders included:

- Lethbridge YMCA general management
- Lethbridge YMCA fitness management/ University of Lethbridge Horns Recreation Management
- Lethbridge YMCA community outreach
- Pelvic floor physiotherapist
- Urinary incontinence specialist
- The target population of adult women

4.1.2: STAKEHOLDER ENGAGEMENT PURPOSES

The purpose of involving management in the YMCA and the University of Lethbridge was to secure permission for the program to run and ensure the program venue. The YMCA fitness management and community outreach stakeholders were needed as they both oversee

programs that are offered in the facility. Additionally, it was vital to the program to connect with a fitness specialist (the fitness manager) as the fitness portion of the program needed to be organized and taught by a personal trainer employed at the YMCA. A pelvic floor physiotherapist was needed to ensure correct education in the curriculum when teaching pelvic floor muscle exercises. A urinary incontinence specialist was needed to ensure the content of the education in the curriculum was in line with practice guidelines as well as to guide survey creation for the evaluation of the program. The target population has a vested interest in the program as its full purpose is for their benefit.

4.1.3: ENGAGEMENT STRATEGIES

Stakeholders were recruited using a variety of methods. The general manager of the YMCA is a personal contact whom I was able to reach out to in person and by text and was very supportive of the program. She was able to connect me with the fitness manager and the community outreach developer and I was able to coordinate a formal in-person meeting to pitch the program. After a mutual decision to proceed with the program, the meeting discussed details of the implementation of the program including timing and how to recruit participants. Contact with YMCA stakeholders continued via email, in-person meetings, as well as digital zoom meetings. YMCA stakeholders were asked to provide feedback on the marketing materials for the program and assisted with the distribution of the materials. To facilitate a second session of the educational seminar, I emailed the Pronghorns facility manager to arrange an in-person meeting and afterwards, communications continued digitally.

A pelvic floor physiotherapist was assigned to be working with the YMCA before the program therefore, I contacted her through email and phone to set up a phone meeting. The engagement was also completed through email. The physiotherapist reviewed the reference used

for the pelvic floor exercises handout and additionally reviewed the handout and provided changes and feedback. She also provided feedback on marketing materials.

The urinary incontinence specialist was contacted by email after finding her research in a reference that guided the building of the pelvic health and fitness program. This specialized nurse practitioner had additionally developed a scale to measure self-efficacy in managing urinary incontinence. The researcher was contacted by email and a formal phone meeting was set up. Contact continued through email. The researcher provided references to guide the fitness portion of the program as well as provided the self-efficacy scale for evaluation purposes.

A member of the target population was contacted and participated in an informal in-person meeting to review the PowerPoint curriculum and patient handouts and provided feedback on the same. Additionally, feedback on the educational seminar was part of the post-intervention survey. Target population members were asked to provide feedback on the patient handouts at the one-month evaluation to see if they were easy to read and if the information included was valuable. There was also a discussion period allotted to the end of the educational program allowing target population members to share experiences as well as to gain their insight into the program deliverable.

4.2: PROGRAM DELIVERABLE

After multiple meetings with the YMCA fitness manager and staff, it was unfortunately decided that the six-week fitness program would not be able to be run. This was due to staffing constraints on the YMCA. Because the program manager was a registered nurse with no personal training or fitness instructing certification, it was essential to have a personal trainer create and run the fitness portion of the program. During the Covid 19 pandemic, many personal trainers

were not working as fitness facilities remained closed for long periods, and certifications lapsed. Therefore, the YMCA was dealing with a shortage of personal trainers and could not spare one to run the pelvic health program. It was decided by YMCA management and the program manager to run only the education portion of the program as the YMCA had already booked to host a pelvic health seminar in collaboration with LIME health and their local pelvic floor physiotherapist. The program was then adapted to be education only. The education portion of the deliverable was changed from 15-minute pre-recorded educational videos to a live two-hour pelvic health seminar.

The pelvic health educational seminar was delivered in three sessions, once at the YMCA on May 14th, 2022, and twice at the University of Lethbridge on June 20 and 22, 2022. The seminar was a PowerPoint-guided educational group session that included a discussion period guided by open-ended questions regarding women's pelvic health, access to care, and stigma. Please see Appendix F for the Curriculum PowerPoint.

4.3: MARKETING AND RECRUITMENT

To facilitate awareness of and recruitment into the program the program manager developed marketing materials. A program description and program flyer or poster were developed and distributed. Please see Appendix G for the program description and Appendix H for the marketing poster. Participants were required to register for the program online or by calling the venue. The goal for recruitment as outlined in the program logic model was 80% program enrollment registration of classroom capacity. YMCA allocated 30 spots for registration and the University allotted 20 spots per session. YMCA had 16 registered participants and the University had 8 and 11. This was an average of 49.43% of program enrollment, unfortunately

well under the program goal. This could be due to the low percentage of treatment-seeking behaviour known in women who suffer from UI.

4.4: EVALUATION

Evaluation is an essential component of any program. A comprehensive evaluation is meant to ensure that program interventions are effective, preventing wasted resources and keeping programs accountable to stakeholders and funders (McKenzie, 2013). The evaluation followed a non-experimental pre-test and post-test design. Pretesting was administered after registration or immediately before the start of the educational seminar. Post-testing was completed immediately following the course, and then again one-month post-program. Ideally, if the program continued, a third wave of evaluation could be administered one-year post-program. Testing was comprised of paper and online surveys, as per participant preference. However, the one-month post-program surveys were only administered online through emailed invitations or over the phone. This was done to limit the amount of personal information needing to be collected, reduce costs associated with mailed surveys, and for ease of data collection. Surveys included collecting data on participants' knowledge of pelvic floor health, incontinence, and treatment; participant self-efficacy in managing incontinence symptoms; self-efficacy in doing pelvic floor muscle exercises; self-reported stigma and embarrassment with discussing the topic of UI; and the likelihood of seeking treatment from health practitioners. The evaluation surveys were titled evaluation 1 for the pre-program survey, evaluation 2 for the immediately post-program survey, and evaluation 3 for the one-month and one-year post-program survey. Please see Appendices B, C, and D to view the evaluation surveys.

4.4.1: INSTRUMENTS

As part of the evaluation, the program utilized the validated tool, the Broome Pelvic Muscle Self-Efficacy Scale Part B, which measures "outcome expectations of a woman's confidence that performing pelvic muscle contractions will decrease or eliminate UI, during urge or stress-related events" (Broome, 1997; Cera, 2019, p. 19; Shelton Broome, 1999). To evaluate participant knowledge, the program manager developed a survey gauging a basic understanding of pelvic health, UI, and UI treatments. In the pilot program implemented by Cera (2019), the authors used a self-developed Continence Health Promotion Self-Efficacy Scale that measured the self-efficacy of self-managing UI symptoms. This scale also had two additional questions that can be added to measure treatment-seeking behaviour. This scale was rigorously peer-reviewed and was used in this program evaluation to gauge participant self-efficacy in managing urinary incontinence symptoms and treatment-seeking behaviour. The modified Social Impact Scale created by Wu Chen et al. (2012) measures stigma related to UI disease. The project manager attempted to gain access to this scale, although due to translation barriers this scale could not be used. According to Southall et al. (2017), the I-QOL or Quality of Life of Persons with Urinary Incontinence tool has 11 questions that address stigma related to UI. Therefore, the 11 stigma questions from this tool were utilized.

4.4.2: PROGRAM EVALUATION DESIGN

Please see Table 1 for the planned program evaluation design.

Table 1

Program Evaluation Design

	Program Registration	Program Implementation	Immediately Post Program	One Month Post Program	One Year Post Program
Program Participants	O_1	X_1	O_2	O_3	O_3

Key: X_1- Two-hour educational seminar featuring the educational curriculum of the program.

O_1- Pre-seminar paper or online survey gauging participant knowledge, stigma, and self-efficacy of performing PFME.

O_2- Immediately post-seminar paper or online survey gauging participant knowledge, stigma, self-efficacy of managing urinary incontinence symptoms, and treatment seeking.

O_3- Post-seminar online or phone survey gauging participant knowledge, stigma, self-efficacy of performing PFME, self-efficacy in managing urinary incontinence symptoms, and treatment seeking.

4.4.3: DATA COLLECTION MATRIX TABLE

The evaluation data collection strategy is presented below in a comprehensive matrix table following the program logic model. See Table 2. The provided data collection matrix table was used following the template provided by Haight (2019) in the University of Lethbridge course HLSC 5510: Program planning and evaluation.

Table 2

Data Collection Strategy

Activity from the logic model: The program manager will develop the educational portion of a six-week combined fitness/education program administered weekly for one hour at the YMCA for registered female participants by June 2022.				
SMART outcome objective from the logic model. What did the activity set out to do?	**Indicator.** What will indicate success for the objective?	**Evaluation question.** What critical questions do you want to answer?	**Data collection method.** What data collection tool will you use?	**Data source.** From whom or where will the data be collected?
Short (Learning): Increase knowledge of female urinary incontinence and treatments by 20% in 80% of adult women who attend the 6-week YMCA pelvic health program.	20% increase in knowledge of female urinary incontinence and treatments.	Does the educational portion of the program increase knowledge about female urinary incontinence and treatment?	The project manager created survey.	Program participants, paper, online, or phone survey.

Medium (Behaviors): Increase self-efficacy in managing urinary incontinence symptoms by 15% in 80% of program participants who have UI symptoms at one-month post-program.	15% increase in self-efficacy to manage urinary incontinence symptoms.	Does the educational portion of the program increase self-efficacy to manage urinary incontinence symptoms?	The Continence Health Promotion Self-Efficacy Scale.	Program participants, paper, online or phone survey.
Increase self-efficacy of performing PFME by 15% in program participants at one-month post-program.	15% increase in self-efficacy of performing PFME.	Does the educational portion of the program increase self-efficacy to perform PFME?	Broome Pelvic Muscle Self-Efficacy Scale Part B.	Program participants, paper, online or phone survey.
Maintain increased knowledge one-month post-program completion in 80% of program participants.	Maintain a 20% increase of knowledge at one-month post-program.	Is knowledge gained during the seminar maintained after one month?	The project manager created survey.	Program participants, paper, online, or phone survey.
Long (Health Status): Maintain increased knowledge and self-efficacy one-year post-program completion in 60% of program participants.	Maintain a 20% increase in knowledge and a 15% increase in self-efficacy after one year.	Are the knowledge and self-efficacy gained from the seminar maintained after one year?	The Continence Health Promotion Self-Efficacy Scale. The project manager created survey.	Program participants, paper, online, or phone survey.
Activity from the logic model: The program manager will develop promotional materials to be distributed in the YMCA and additional areas, to increase awareness of the program and encourage program registration by May 2022.				
SMART outcome objective from the logic model.	**Indicator.**	**Evaluation question.**	**Data collection method.**	**Data source.**

Short (Learning): Decreased self-stigma and embarrassment associated with urinary incontinence by 15% in 60% of women who attend the Lethbridge YMCA pelvic health program.	Decrease of self-stigma by 15% in the majority of seminar participants.	Will the seminar decrease stigma and embarrassment associated with urinary incontinence?	11 questions from the I-QOL tool (Quality of Life of Persons with Urinary Incontinence). These 11 questions from the tool address stigma.	Program participants, paper, online or phone survey.
Demonstrate a willingness to seek treatment from a health practitioner in 80% of program participants.	80% of participants who attend the seminar reported a willingness to seek treatment from a health practitioner.	Will the seminar encourage treatment-seeking behaviour for urinary incontinence symptoms?	The Continence Health Promotion Self-Efficacy Scale Part B.	Program participants, paper, online or phone survey.
Medium (Behaviors): Maintain increased willingness to seek treatment for urinary incontinence symptoms from a health practitioner in 80% of program participants one-month post program completion.	80% of participants who attend the seminar maintained a willingness to seek treatment from a health practitioner at one-month post-seminar.	Will treatment-seeking behaviours be maintained one month following the seminar?	The Continence Health Promotion Self-Efficacy Scale Part B.	Program participants, paper, online or phone survey.
Long (Health Status): Maintain increased willingness to seek treatment for urinary incontinence symptoms from a health practitioner in 60% of program	60% of participants who attend the seminar maintained a willingness to seek treatment from a health practitioner at	Will treatment-seeking behaviours be maintained one year following the seminar?	The Continence Health Promotion Self-Efficacy Scale Part B.	Program participants, paper, online or phone survey.

participants one-year post-program completion.	one-year post-seminar.			

4.5: DATA ANALYSIS AND FEEDBACK

A total of 31 participants attended the seminars. There were 31 pre-seminar survey responses and 30 immediately post-seminar survey responses recorded. Unfortunately, only 12 participants completed the one-month survey. Data analysis was conducted by Mason Daub, a physics undergraduate major from the University of Lethbridge, and the project manager. The analysis looked at the sum, average, standard deviation, and percentages of the total survey responses according to the instruments utilized.

Please see Figure 2 for a graph representing the percentages measured in the pre, immediately post, and one-month surveys. Only knowledge and quality of life or stigma were measured during all three surveys.

There was a statistically significant 20% increase in knowledge from the pre-seminar survey to the post-survey. The increase in knowledge was maintained after one month. There was a 7% increase in quality of life (or a 7% decrease in stigma) noted from the pre- to post-survey, however, this was not statistically significant. Although it was interesting that after just a two-hour seminar there was any measured difference noted at all. Additionally, during the one-month survey, there was an additional increase in quality of life, for a total of 11% gain compared to the pre-seminar survey, and this did show statistical significance.

Figure 2: Percentage

There was a 4% decrease in participants' self-efficacy to manage symptoms and a 5% decrease in self-efficacy of PFME. However, neither of these changes were statistically significant, implying that the program did not have much effect on participants' self-efficacy levels. Due to the low participation rate of the one-month survey, it is difficult to draw meaningful conclusions in the areas where measurement was dependent on the one-month follow-up.

73% of program participants reported a willingness to seek treatment from a health practitioner following the seminar and this increased to 83% during the one-month survey. 100% of program participants would recommend the educational seminar to someone they know. 83% of participants were interested in also taking a pelvic health fitness class at the YMCA.

4.5.1: FEEDBACK AND GROUP DISCUSSION THEMES

The educational seminar had a scheduled period for group discussion at the end of the program which was facilitated by open-ended questions about pelvic and women's health. Such questions included: "why do you think that this topic is not discussed openly?" and "why do you think women are not seeking treatment?". Surprisingly, the discussion period was full of robust, engaged discussion which often included 100% group participation and always needed to be cut off and ended by the educator. Themes noted in the discussion period could be grouped into three main themes:

1. Frustration with health practitioners when trying to discuss women's health symptoms or access care. Not feeling listened to by health practitioners.
2. Embarrassment, lack of openness, and shame associated with "that body part" (not necessarily incontinence but more trying to deal with the pelvic region) due to generational upbringing.
3. Dissatisfaction with the overarching current health care system and the lack of support for women's health issues.

Some key verbal responses recorded include: "The doctors are just there to give you meds". "How do I access this if I have no family doctor? Wait in Emergency to speak to a triage doctor about this? No way!". "We need to change the whole system!".

Many women voiced a desire to share the information learned in the educational seminar with their social groups. This, coupled with the 100% recommendation rate noted in the data and the low recruitment, highlights that marketing for this program may need to be different from using posters or flyers. Recruitment may benefit from word-of-mouth networking and advertising from past participants. Additionally, group discussion and participant feedback

highlighted women's desire to access health information in different ways, such as through community settings like fitness facilities.

4.5.2: PROJECT LIMITATIONS

Many limitations were noted with the project. Due to the Master of Nursing project timeline, there was a short time window to prepare, implement and evaluate the entire program. Adding to the stress and workload this timeline created, was the fact that the program was overseen and completed by only myself. In true project management, there should be more realistic timeframes allotted and a team of workers the project manager can coordinate with and delegate to. The short timeline and small brunt workforce limited the capacity of the program.

This program was completed on an individual basis without grounding with an organization or institution. This means the program was completed without any financial backing or funding. This limited marketing, recruitment, and the scope of the program. Not being tied to a specific organization allowed for my freedom as the project manager to make all the decisions. However, as an inexperienced project lead, it also meant I had no policies or institutional influence to rely on or guide me throughout the program implementation process.

The program was limited by the staffing shortages within the YMCA causing need for adaptation of the program deliverable. There was low recruitment into the program resulting in a small number of total participants. Additionally, there was a low percentage of program attendees who completed the one-month follow-up survey. Percentages of participants who would seek treatment following the program or would recommend the program to others were high, however, the participants who attended already demonstrated treatment-seeking behaviour just by registering for the seminar.

4.5.3: IMPLICATIONS FOR NURSING PRACTICE

The pelvic health educational curriculum increased women's knowledge about pelvic health, quality of life, and was positively received. Recruitment may benefit from focusing on word of mouth and offering the program routinely to encourage past participants to advertise and recruit from their social networks into the program.

Health practitioners, specifically family doctors, should openly and routinely ask women about their pelvic health issues and be given more education in this area. Women's health education should be available through a variety of avenues, including community settings. There needs to be increased public health funding for women's health to facilitate increasing educational efforts and access to care. Increasing funding in this area has the potential to decrease health costs associated with pelvic floor dysfunction and increase women's quality of life. Women have a desire to openly discuss these topics and increase their education levels, however, there is extremely limited opportunity to access this information. This women's health issue, which is directly associated with quality of life, does not have the resources needed to not only provide access to information and treatment but to perform vital research, which is woefully lacking in this area.

Nurses are in an excellent position to provide education in public health and community settings. The evaluation of this program shows the benefit that expanding the role of the pelvic health nurse is not only beneficial for women but also desired by women. Pelvic health information, resources, and access to treatment should be available through alternative avenues to traditional medicine. As this topic is associated with a lack of information and not knowing treatments are available, providing access to education through a variety of methods serves to benefit women. Pelvic health should be part of school system health classes to increase

awareness and openness of the topic. Fitness facilities should have pelvic health nurses on staff to educate women. This would promote the prevention of symptoms and loss of customers as they stop attending due to increased UI. Pre and postnatal care should include more comprehensive education on pelvic health and access to physiotherapy, as is the model in Europe.

Nursing is a foremost avenue to promote pelvic health due to it being a primarily female industry with much higher numbers than other health practitioner specialties. Pelvic health nursing needs to be expanded and promoted. It should be included in basic nursing curriculums or offered as specialty training certifications for graduated nurses. There should be resources allocated to increase women's health-focused nursing positions across the health care system and communities.

4.5.4: CONCLUSION

UI is a prevalent condition that affects more women than men and has vast negative consequences including stopping women from participating in physical activity. Stopping physical activity not only has the potential to worsen UI symptoms but also has a multitude of negative effects on general health and wellbeing. Conservative measures to treat UI are effective and cost-effective and should be implemented as the first line of treatment. Additionally, conservative measures and maintaining physical activity can prevent the onset of UI. Many women have limited knowledge and understanding of UI and its treatment options and do not seek treatment. Much of the literature advocates for increasing women's knowledge of UI and nurse-led programs have been effective at increasing understanding and self-efficacy and decreasing symptoms of UI. Additionally, the literature advocates for increasing community-based programs and providing education in fitness facilities as part of fitness programming.

The modified Pelvic Health Fitness and Education program increased women's knowledge of pelvic health and decreased the stigma associated with UI. Providing this important education in community settings other than healthcare facilities promotes increased access to care, negating the need for women to approach their health care provider and allowing women to access UI education without waiting to see a specialist. Nurse-led pelvic health initiatives are needed within the health care system and communities to educate and treat women. Providing more pelvic health nursing care and education will fill the noted gap between symptoms and accessing treatment. It will also promote prevention and improved quality of life for women. Increasing openness and awareness of this topic by expanding pelvic health nursing in community-based centers can reduce societal stigma toward UI. Because of the effectiveness of conservative measures to treat UI, pelvic health nursing also has the potential to decrease the need for invasive, expensive treatments for UI, decreasing costs to an overtaxed health care system.

CHAPTER 5: PERSONAL REFLECTION

The project implementation provided me with a unique learning and humbling experience. Working against a tight timeline and having little to no personal experience with project management was stressful, exhausting, and limiting to the program capacity. I had put a great deal of blood, sweat, and tears into perfecting the plan of my project. It was disappointing and eye-opening to discover that the program could not be run in its originally planned format as a six-week fitness and education course. Adding to the disappointment was the short notice given to adapt the entire program. This caused anxiety and unbelievable pressure as I was working with stakeholders and did not want to disappoint them while still wanting to ensure a beneficial deliverable. Looking back, I am grateful for the critical thinking experience I received throughout my nursing education and work experience. This allowed me to quickly and creatively adapt the program while keeping the core educational elements intact. Although I was able to modify the program, it was still disheartening to have to let go of my original plan. I felt like I had to let go of some personal vanity to acclimatize to the new format and move forward with it.

The program goal for recruitment was 80% of the designated program capacity. Actual recruitment was well under this. I had inexplicably assumed that recruitment with a simple poster would have women flocking to change their lives for the better. I was surprised and disheartened, even though the literature had informed me that treatment-seeking is low in this area of health.

Despite the feelings of defeat and insignificance, my faith in the program was renewed after the first seminar. I was blown away by the open discussion and felt again like this topic was important for women to hear about. The program feedback only fueled my growing excitement, and it was heartening to see the light of enthusiasm being spread to participants. The feeling of

empowering women through their noted responses and the positive data analysis was reassuring. It made me feel that the stress and effort associated with implementing the program were indeed worthwhile.

5.1: LESSONS LEARNED

A main lesson I learned was the benefit associated with working alongside a team. My inexperience with program development caused unnecessary toil and compromised the capacity of the project. I only had strengths in certain areas and needed assistance with other duties associated with the program, such as data analysis. I can see the value in having more team members to share the workload and diversify the strengths of the program. There is also difficulty associated with working alongside team members, or stakeholders. For example, not being able to implement the original program due to stakeholder limitations was frustrating. This reaffirmed the importance of critical skills needed for program implementation. I learned to be more adaptable and creative while holding to the essential fundamentals needed for the project. Additionally, it was important to be humble and open-minded, acknowledging the viewpoints of others and taking into consideration their recommendations.

Another vital lesson learned was the importance of revising program elements that are not working well. This highlighted the crucial component that evaluation plays in program planning. When I completed the first seminar, and recruitment was well under the program goal of 80%, I should have adapted the marketing techniques at that time. Instead, due to time and workload constraints, I continued with the same ineffective methods and recruitment repeatedly suffered. It is important to adapt and revise the program ongoing to ensure better success and correct faults.

Having realistic and evidence-based expectations was an additional lesson learned from implementing this program. Although the literature showed that treatment-seeking behaviour is low in women who suffer from UI, I had assumed that offering the program in a different setting would negate this barrier.

5.2: FUTURE OF THE PROGRAM

Moving forward, the data analysis and participant feedback emphasized the value of the program for women. Marketing techniques need to be adapted and revised based on literature and participant feedback. I could review social marketing methods to assist with looking at recruitment into the program in a new light. For example, having the YMCA offer the pelvic health educational seminar as an optional part of orientation to the gym for new members. Or requiring personal trainers employed at the YMCA take the seminar so they are more informed and can suggest it for certain clients. It could also be as simple as not holding the program over the summer when attendance may be low anyways. I would encourage past participant recruitment into the program as feedback was positive for recommending the program to others. This could be done by word of mouth or having something they could share on social media. Offering the program regularly would facilitate building recruitment momentum by past members but would take time to develop.

I would like to continue to adapt the program and eventually implement it as originally intended, as a fitness program. Data analysis did not show that the program had any effect on self-efficacy to self-manage symptoms. Therefore, I would potentially revise this and change the program goals to increase understanding of UI and decrease levels of UI. Ideally, I would love to see the program offered as a multicenter, single-blind, random control trial. The program could be offered by the YMCA and the University of Lethbridge fitness facilities. Female participants

would be randomly selected into a treatment (pelvic health program) or control (general fitness without the education) group. I would also recommend lengthening the program to 12 weeks as the literature asserts that a three-month guided PFME regime has the best outcomes for a reduction in UI. Evaluation would measure UI levels, understanding of pelvic health concepts, and quality of life.

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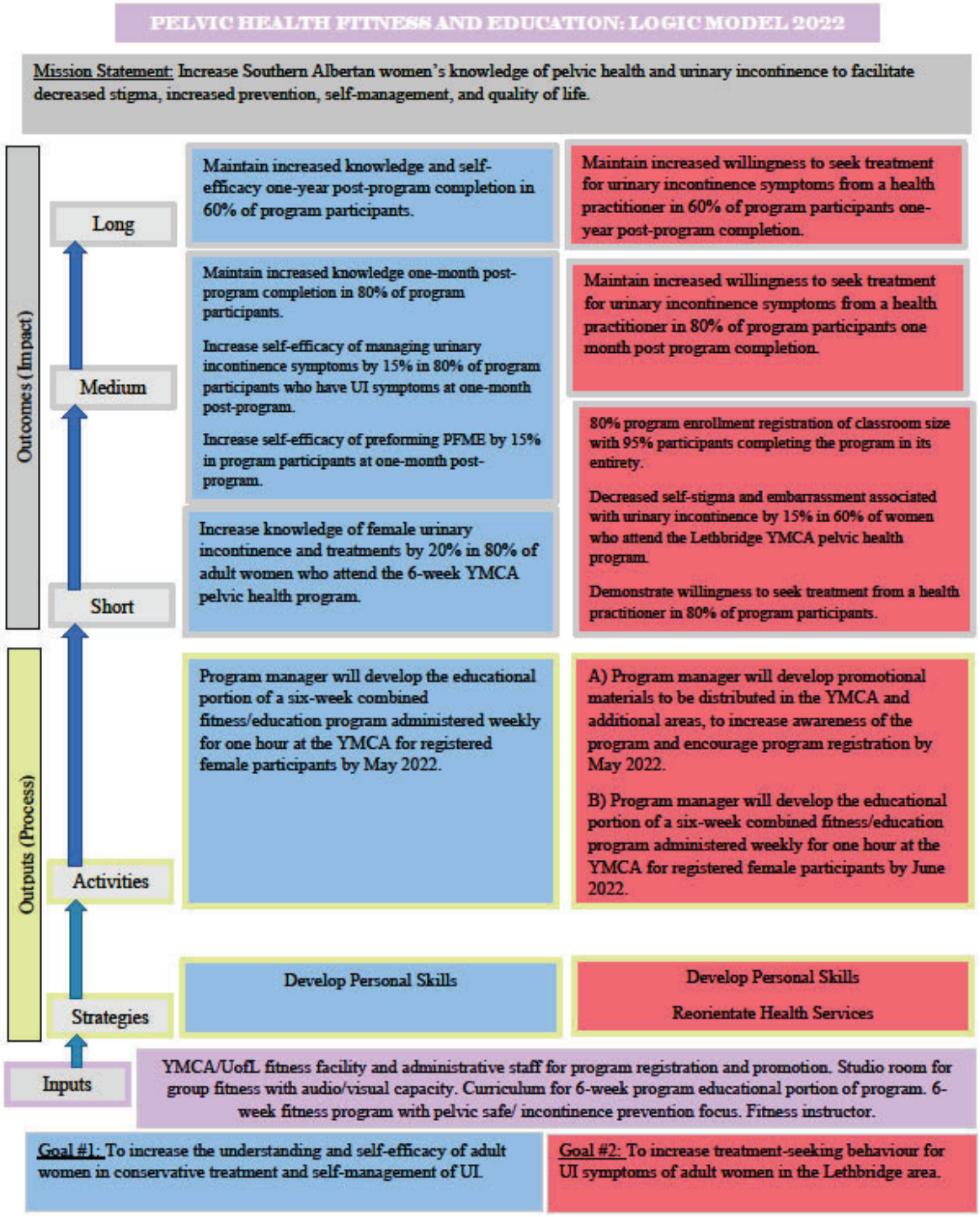
APPENDIX A: LOGIC MODEL



APPENDIX B: EVALUATION 1

June 20, 2022

Consent

Thank you for volunteering to complete this survey. My name is Jessica Price, and I am a Master of Nursing Student at the University of Lethbridge. For my project, I am trying to increase women's knowledge about urinary incontinence and help them feel like they can manage their own incontinence.

This survey looks at your knowledge about urinary incontinence, how incontinence makes you feel, and how you feel you could manage your own care. It will take about 5 to 10 minutes to complete the survey. The answers you give me will be shared only with my instructor and a researcher named Dr. Jennifer Cera who is helping me. Your answers will help me learn ways to improve education for women in our community. Some of the questions in this survey are sensitive in nature and may make you feel uncomfortable. You can stop the survey at any time if you feel distressed. All the answers you give will be kept private and will not be shared with the public.

If you choose to complete the survey online your privacy cannot be guaranteed due to being done over the internet. Please see the Qualtrics privacy statement here:

https://www.qualtrics.com/privacy-statement/

It is your choice to complete the survey or not. If you choose not to complete the survey, you will still be able to attend the Pelvic Health Seminar. If you continue to fill out the survey, you are telling me that you give consent for the collection of your information.

If you have any questions about this survey and the use of your information you can contact me or my instructor, Dr. Silvia Koso, MD MPH.

Jessica Price, R.N.

Phone: (403) 894-4743 Email: Jessica.baker2@uleth.ca

Dr. Silvia Koso Email: silvia.koso@uleth.ca Phone: 403-332-4088

Survey

1. There are different types of urinary incontinence (leaking urine).

   □ True □ False

2. Things that I eat, or drink can change my peeing habits.

   □ True □ False

3. The pelvic floor is a group of muscles that are part of the ‘core’.

   □ True □ False

4. The pelvic floor muscles help control peeing and pooping.

   □ True □ False

5. The bladder is a muscle.

   □ True □ False

6. There are things I can do on my own that can lessen or prevent leaking urine.

   □ True □ False

For the next statements please choose how much you are affected.

7. I worry about wetting myself
   □ Very much □ Moderately □ A little □ Not at all

8. I worry about coughing or sneezing because of my incontinence.
   □ Very much □ Moderately □ A little □ Not at all

9. I worry about where toilets are in new places.
   □ Very much □ Moderately □ A little □ Not at all

10. I worry about others smelling urine on me.
□ Very much □ Moderately □ A little □ Not at all

11. I worry about my incontinence getting worse as I get older.
□ Very much □ Moderately □ A little □ Not at all

12. I worry about being embarrassed or humiliated because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

13. I worry about not being able to get to the toilet on time.
□ Very much □ Moderately □ A little □ Not at all

14. I worry about having sex because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

15. I feel depressed because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

16. My Incontinence makes me feel like I'm not a healthy person.
□ Very much □ Moderately □ A little □ Not at all

17. My incontinence makes me feel helpless.
□ Very much □ Moderately □ A little □ Not at all

For the next statements please circle your level of confidence in performing that activity. On the scale, 0 means that you are not confident at all and a 100 means that you feel very confident you could perform the activity. (100% chance that you could perform the behaviour).

How confident are you that you can:

18. contract your pelvic muscles?
    0 10 20 30 40 50 60 70 80 90 100

19. perform pelvic muscle contractions three times a day?
    0 10 20 30 40 50 60 70 80 90 100

20. perform pelvic muscle contractions while lying down?
    0 10 20 30 40 50 60 70 80 90 100

21. perform pelvic muscle contractions while standing?
    0 10 20 30 40 50 60 70 80 90 100

22. perform pelvic muscle contractions while sitting?
    0 10 20 30 40 50 60 70 80 90 100

23. contract your pelvic muscles without contracting your abdominal muscles?
    0 10 20 30 40 50 60 70 80 90 100

24. contract your pelvic muscles while washing fruits and vegetables under running water?
    0 10 20 30 40 50 60 70 80 90 100

25. contract your pelvic muscles while lifting a bag of groceries?
    0 10 20 30 40 50 60 70 80 90 100

26. contract your pelvic muscle while standing at the sink brushing your teeth?
    0 10 20 30 40 50 60 70 80 90 100

27. contract your pelvic muscle rapidly?

0 10 20 30 40 50 60 70 80 90 100

28. perform pelvic muscle contractions when you are sad?

0 10 20 30 40 50 60 70 80 90 100

29. contract your pelvic muscle to prevent urine loss while showering after a busy and tiring day?

0 10 20 30 40 50 60 70 80 90 100

30. perform pelvic muscle contractions when you are tired?

0 10 20 30 40 50 60 70 80 90 100

31. contract your pelvic muscle when you awaken at night with a strong urge to urinate?

0 10 20 30 40 50 60 70 80 90 100

For the next statements please circle the number that represents your level of confidence that the activity will eliminate unwanted urine loss. 0 means that you do not feel that the activity will eliminate urine loss and 100 means that you are very confident that the activity will prevent unwanted urine loss.

How confident are you that pelvic muscle contractions will prevent unwanted urine loss:

32. when you experience a strong urge to urinate?

0 10 20 30 40 50 60 70 80 90 100

33. when you sneeze?

0 10 20 30 40 50 60 70 80 90 100

34. when you laugh?

0 10 20 30 40 50 60 70 80 90 100

35. while waiting two minutes for a restroom?

0 10 20 30 40 50 60 70 80 90 100

36. while waiting five minutes for a restroom?

0 10 20 30 40 50 60 70 80 90 100

37. when you wake up a night with a strong urge to urinate?

0 10 20 30 40 50 60 70 80 90 100

38. when you lift a heavy package?

0 10 20 30 40 50 60 70 80 90 100

39. when you cough?

0 10 20 30 40 50 60 70 80 90 100

40. when washing fruits and vegetables?

0 10 20 30 40 50 60 70 80 90 100

APPENDIX C: EVALUATION 2

June 20, 2022

Consent

Thank you for volunteering to complete this survey. My name is Jessica Price, and I am a Master of Nursing Student at the University of Lethbridge. For my project, I am trying to increase women's knowledge about urinary incontinence and help them feel like they can manage their own incontinence.

This survey looks at your knowledge about urinary incontinence, how incontinence makes you feel, and how you feel you could manage your own care. It will take about 5 to 10 minutes to complete the survey. The answers you give me will be shared only with my instructor and a researcher named Dr. Jennifer Cera who is helping me. Your answers will help me learn ways to improve education for women in our community. Some of the questions in this survey are sensitive in nature and may make you feel uncomfortable. You can stop the survey at any time if you feel distressed. All the answers you give will be kept private and will not be shared with the public.

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If you have any questions about this survey and the use of your information you can contact me or my instructor, Dr. Silvia Koso, MD MPH.

Jessica Price, R.N.

Phone: (403) 894-4743 Email: Jessica.baker2@uleth.ca

Dr. Silvia Koso Email: silvia.koso@uleth.ca Phone: 403-332-4088

Survey

1. There are different types of urinary incontinence (leaking urine).

   □ True □ False

2. Things that I eat, or drink can change my peeing habits.

   □ True □ False

3. The pelvic floor is a group of muscles that are part of the ‘core’.

   □ True □ False

4. The pelvic floor muscles help control peeing and pooping.

   □ True □ False

5. The bladder is a muscle.

   □ True □ False

6. There are things I can do on my own that can lessen or prevent leaking urine.

   □ True □ False

For the next statements please choose how much you are affected.

7. I worry about wetting myself
   □ Very much □ Moderately □ A little □ Not at all

8. I worry about coughing or sneezing because of my incontinence.
   □ Very much □ Moderately □ A little □ Not at all

9. I worry about where toilets are in new places.
   □ Very much □ Moderately □ A little □ Not at all

10. I worry about others smelling urine on me.
□ Very much □ Moderately □ A little □ Not at all

11. I worry about my incontinence getting worse as I get older.
□ Very much □ Moderately □ A little □ Not at all

12. I worry about being embarrassed or humiliated because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

13. I worry about not being able to get to the toilet on time.
□ Very much □ Moderately □ A little □ Not at all

14. I worry about having sex because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

15. I feel depressed because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

16. My Incontinence makes me feel like I'm not a healthy person.
□ Very much □ Moderately □ A little □ Not at all

17. My incontinence makes me feel helpless.
□ Very much □ Moderately □ A little □ Not at all

For the next statements select a number from the scale that best indicates your level of confidence.

How confident are you that you can:

18. Consume at least 48 ounces of fluid per day?
0 10 20 30 40 50 60 70 80 90 100

19. Consume less than 70 ounces of fluid per day?
0 10 20 30 40 50 60 70 80 90 100

20. Reduce caffeine intake by 50% of current intake?
0 10 20 30 40 50 60 70 80 90 100

21. Reduce fluids containing aspartame (soda, sparkling water, sugar substitute) by 50%?
0 10 20 30 40 50 60 70 80 90 100

22. Reduce bladder irritants such as citrus fruits, spicy foods, and tomato products?
0 10 20 30 40 50 60 70 80 90 100

23. Maintain a healthy weight?
0 10 20 30 40 50 60 70 80 90 100

24. Eliminate using the restroom “just in case”?
0 10 20 30 40 50 60 70 80 90 100

25. Eliminate using the restroom as soon as you enter your home after being out?
0 10 20 30 40 50 60 70 80 90 100

26. Eliminate using the restroom immediately upon arriving to a shopping mall, grocery store, etc.?
0 10 20 30 40 50 60 70 80 90 100

27. Eliminate pushing when using the restroom because you are in a hurry?
0 10 20 30 40 50 60 70 80 90 100

28. To wait for a second contraction of the bladder before getting up from the toilet?

0 10 20 30 40 50 60 70 80 90 100

29. To manage constipation (having soft bowel movements everyday to every other day)?

0 10 20 30 40 50 60 70 80 90 100

30. Following the continence educational program, are you more likely to seek care from a healthcare provider for urinary incontinence?

□ Yes □ No □ Undecided

31. Following the continence educational program, are you more likely to seek initial care within a community setting if it were offered?

□ Yes □ No □ Undecided

32. How long was this educational program?

□ Okay in length □ Too long □ Not enough time

33. Would you recommend this educational program to someone you know?

□ Yes □ No □ Not sure

34. Would you be interested in taking a pelvic health fitness program taught by an instructor at the YMCA that incorporates pelvic health exercises and education?

□ Yes □ No □ Not sure

APPENDIX D: EVALUATION 3

June 20, 2022

Consent

Thank you for volunteering to complete this survey. My name is Jessica Price, and I am a Master of Nursing Student at the University of Lethbridge. For my project, I am trying to increase women's knowledge about urinary incontinence and help them feel like they can manage their own incontinence.

This survey looks at your knowledge about urinary incontinence, how incontinence makes you feel, and how you feel you could manage your own care. It will take about 5 to 10 minutes to complete the survey. The answers you give me will be shared only with my instructor and a researcher named Dr. Jennifer Cera who is helping me. Your answers will help me learn ways to improve education for women in our community. Some of the questions in this survey are sensitive in nature and may make you feel uncomfortable. You can stop the survey at any time if you feel distressed. All the answers you give will be kept private and will not be shared with the public.

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If you have any questions about this survey and the use of your information you can contact me or my instructor, Dr. Silvia Koso, MD MPH.

Jessica Price, R.N.

Phone: (403) 894-4743 Email: Jessica.baker2@uleth.ca

Dr. Silvia Koso Email: silvia.koso@uleth.ca Phone: 403-332-4088

Survey

41. There are different types of urinary incontinence (leaking urine).

□ True □ False

42. Things that I eat, or drink can change my peeing habits.

□ True □ False

43. The pelvic floor is a group of muscles that are part of the ‘core’.

□ True □ False

44. The pelvic floor muscles help control peeing and pooping.

□ True □ False

45. The bladder is a muscle.

□ True □ False

46. There are things I can do on my own that can lessen or prevent leaking urine.

□ True □ False

For the next statements please choose how much you are affected.

47. I worry about wetting myself

□ Very much □ Moderately □ A little □ Not at all

48. I worry about coughing or sneezing because of my incontinence.

□ Very much □ Moderately □ A little □ Not at all

49. I worry about where toilets are in new places.

□ Very much □ Moderately □ A little □ Not at all

50. I worry about others smelling urine on me.
□ Very much □ Moderately □ A little □ Not at all

51. I worry about my incontinence getting worse as I get older.
□ Very much □ Moderately □ A little □ Not at all

52. I worry about being embarrassed or humiliated because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

53. I worry about not being able to get to the toilet on time.
□ Very much □ Moderately □ A little □ Not at all

54. I worry about having sex because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

55. I feel depressed because of my incontinence.
□ Very much □ Moderately □ A little □ Not at all

56. My Incontinence makes me feel like I'm not a healthy person.
□ Very much □ Moderately □ A little □ Not at all

57. My incontinence makes me feel helpless.
□ Very much □ Moderately □ A little □ Not at all

For the next statements select a number from the scale that best indicates your level of confidence.

How confident are you that you can?

58. Consume at least 48 ounces of fluid per day?

0 10 20 30 40 50 60 70 80 90 100

59. Consume less than 70 ounces of fluid per day?
0 10 20 30 40 50 60 70 80 90 100

60. Reduce caffeine intake by 50% of current intake?
0 10 20 30 40 50 60 70 80 90 100

61. Reduce fluids containing aspartame (soda, sparkling water, sugar substitute) by 50%?
0 10 20 30 40 50 60 70 80 90 100

62. Reduce bladder irritants such as citrus fruits, spicy foods, and tomato products?
0 10 20 30 40 50 60 70 80 90 100

63. Maintain a healthy weight?
0 10 20 30 40 50 60 70 80 90 100

64. Eliminate using the restroom “just in case”?
0 10 20 30 40 50 60 70 80 90 100

65. Eliminate using the restroom as soon as you enter your home after being out?
0 10 20 30 40 50 60 70 80 90 100

66. Eliminate using the restroom immediately upon arriving to a shopping mall, grocery store, etc.?
0 10 20 30 40 50 60 70 80 90 100

67. Eliminate pushing when using the restroom because you are in a hurry?

0 10 20 30 40 50 60 70 80 90 100

68. To wait for a second contraction of the bladder before getting up from the toilet?
0 10 20 30 40 50 60 70 80 90 100

69. To manage constipation (having soft bowel movements everyday to every other day)?
0 10 20 30 40 50 60 70 80 90 100

70. Following the continence educational program, are you more likely to seek care from a healthcare provider for urinary incontinence?
□ Yes □ No □ Undecided

71. Following the continence educational program, are you more likely to seek initial care within a community setting if it were offered?
□ Yes □ No □ Undecided

For the next statements please circle your level of confidence in performing that activity. On the scale 0 means that you are not confident at all and a 100 means that you feel very confident you could perform the activity. (100% chance that you could perform the behaviour).

How confident are you that you can:

72. contract your pelvic muscles?
0 10 20 30 40 50 60 70 80 90 100

31. perform pelvic muscle contractions three times a day?

0 10 20 30 40 50 60 70 80 90 100

32. perform pelvic muscle contractions while lying down?

0 10 20 30 40 50 60 70 80 90 100

33. perform pelvic muscle contractions while standing?

0 10 20 30 40 50 60 70 80 90 100

34. perform pelvic muscle contractions while sitting?

0 10 20 30 40 50 60 70 80 90 100

35. contract your pelvic muscles without contracting your abdominal muscles?

0 10 20 30 40 50 60 70 80 90 100

36. contract your pelvic muscles while washing fruits and vegetables under running water?

0 10 20 30 40 50 60 70 80 90 100

37. contract your pelvic muscles while lifting a bag of groceries?

0 10 20 30 40 50 60 70 80 90 100

38. contract your pelvic muscle while standing at the sink brushing your teeth?

0 10 20 30 40 50 60 70 80 90 100

39. contract your pelvic muscle rapidly?

0 10 20 30 40 50 60 70 80 90 100

40. preform pelvic muscle contractions when you are sad?

0 10 20 30 40 50 60 70 80 90 100

41. contract your pelvic muscle to prevent urine loss while showering after a busy and tiring day?

0 10 20 30 40 50 60 70 80 90 100

42. preform pelvic muscle contractions when you are tired?

0 10 20 30 40 50 60 70 80 90 100

43. contract your pelvic muscle when you awaken at night with a strong urge to urinate?

0 10 20 30 40 50 60 70 80 90 100

For the next statements please circle the number that represents your level of confidence that the activity will eliminate unwanted urine loss. 0 means that you do not feel that the activity will eliminate urine loss and 100 means that you are very confident that the activity will prevent unwanted urine loss.

How confident are you that pelvic muscle contractions will prevent unwanted urine loss:

44. when you experience a strong urge to urinate?

0 10 20 30 40 50 60 70 80 90 100

45. when you sneeze?

0 10 20 30 40 50 60 70 80 90 100

46. when you laugh?

0 10 20 30 40 50 60 70 80 90 100

47. while waiting two minutes for a restroom?

0 10 20 30 40 50 60 70 80 90 100

48. while waiting five minutes for a restroom?

0 10 20 30 40 50 60 70 80 90 100

49. when you wake up a night with a strong urge to urinate?

0 10 20 30 40 50 60 70 80 90 100

50. when you lift a heavy package?

0 10 20 30 40 50 60 70 80 90 100

51. when you cough?

0 10 20 30 40 50 60 70 80 90 100

52. when washing fruits and vegetables?

0 10 20 30 40 50 60 70 80 90 100

APPENDIX E: GANTT CHART PELVIC HEALTH AND FITNESS

Activity	Apr.	May	Jun.	Jul.	Aug.
Determine and recruit stakeholders. Meet with YMCA management to determine program details.					
Create marketing materials for recruitment into the program.					
Obtain feedback from instructor and stakeholders on marketing materials.					
Print and distribute marketing materials to YMCA, two local libraries, community pool, senior citizen recreational center, social medical accounts, and Doctor's office.					
Develop Curriculum and PowerPoint for the educational portion of the program and submit them for instructor and stakeholder feedback and approval. Adjust according to feedback.					
Contact specialist stakeholders for permission to use evaluation scales. Develop an evaluation survey and create Qualtrics online survey and submit it for instructor approval.					
May 14- Pilot program modified implementation. Educational seminar at the YMCA. Pre-evaluation survey and post-evaluation survey.					
Paper evaluation data input into Qualtrics online database. Review participant feedback and adjust the program curriculum as needed. Meet with YMCA stakeholders for feedback on the modified pilot program.					
Contact the University of Lethbridge Pronghorns management to set up a second venue. Update marketing materials to reflect the second educational					

seminar and distribute them to the university.	
Distribute marketing materials to the health sciences department, SGS, and Dr. offices.	
Data analysis and evaluation reflection. Contact University statistics program for assistance with Qualtrics survey analysis.	
One-month post-program session 1 evaluation survey distribution via email or phone and input data.	
Adjust program handouts according to session 1 one-month feedback.	
June 20th and 22nd -Session 2 of the educational seminar (pilot program modified implementation). Pre-evaluation survey and post-evaluation survey for the second session.	
Session 2 paper evaluation data input. Review participant feedback and adjust the program curriculum as needed. Compare data to session 1 and reflection on the same.	
Draft presentation	
Synchronous seminar 2, final project presentations July 12, 2022.	
One month post session 2 program evaluation survey distribution via phone or email and input data into Qualtrics. Adjust handouts according to participant feedback.	
Session 2 data analysis. Final evaluation reflection.	
Final paper writing, submission for review, updates, and revisions.	
Final paper submission. Must be available during August for revisions.	

APPENDIX F: CURRICULUM POWERPOINT

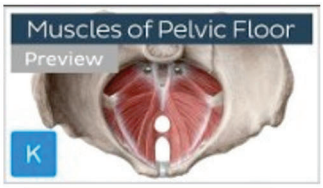
Pelvic Health

Education for Women

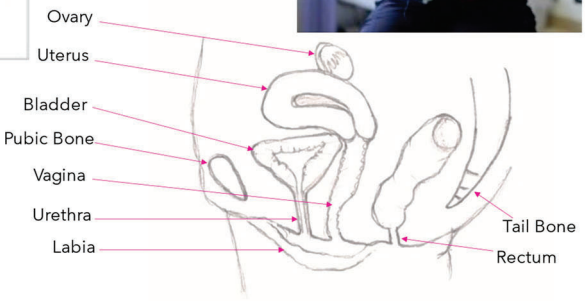
Agenda

1. Anatomy and Physiology
2. Urinary Incontinence
3. Treatment: Conservative & Surgical
   - Risk Reduction
   - PFME and Physiotherapy
   - Behavioral Techniques
   - Vaginal Inserts
   - Medications/Third-line treatments
4. Group Discussion and Questions

MAY 14, 2022 2



The Pelvic Floor consists of multiple muscles that create a hammock like structure running from your pubic bone to your tailbone. There are two openings in the muscles: One anterior (towards the front) for the vagina and urethra, and one posterior (towards the back) for the rectum.



Anatomy & Physiology

Pelvic Floor Dysfunctions

- Pelvic organ prolapse
- Dyspareunia or painful intercourse
- Incontinence
- Vaginal atrophy or lack of estrogen
- Emptying disorders of the bladder/bowel
- Pain

Urinary Incontinence

- Is extremely common
- Affects more women than men
- Affects more women post-menopausal.
- Approximately one third post menopausal women suffer with urinary incontinence.
- Is TREATABLE and PREVENTABLE although many women do not know this.

Types of Incontinence

Stress Incontinence: Leakage of urine with increased intraabdominal pressure, such as coughing, sneezing, running, jumping.

Urge Incontinence: Leakage of urine associated with a strong urge to go to the bathroom. Women are usually leaking on their way to the toilet.

Mixed Incontinence: A combination of both stress and urge incontinence.

Overactive Bladder: Bladder muscle contractions that result in frequency, urgency and nocturia.

Incontinence Quiz- What type of incontinence do you have? (nafc.org)

Treatment for Urinary Incontinence

- There are many treatments for urinary incontinence.
- Assessment by your physician is recommended to rule out any other problems you could be having.
- Treatments are usually divided into 'conservative treatments' and 'surgical or medical treatments'.

7

Risk Reduction

Risks for Urinary Incontinence:

Things I Cannot Control:

- Pregnancy, Traumatic delivery
- Chronic Cough
- Heavy Duties/Lifting
- Genetics
- Age
- Previous Gynecological cancer or surgery.

Things I Can Control:

- What I'm eating and drinking
- Smoking
- Weight
- Chronic Constipation
- Lack of Exercise
- Diabetes
- Fluid Intake (not too little, not too much.

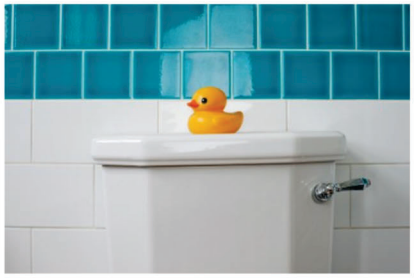
Healthy Bowel and Bladder Habits

- Drink 6-8 cups of water a day (48 ounces)
- Avoid excess amounts of fluid in one day
- Empty your bladder every 3-4 hours (except at night)
- Manage constipation – Bristol Stool Chart
- Correct toilet posturing, avoid pushing to start the flow of urine or empty the bladder.
- Double voiding when appropriate. (Second contracture of the bladder)

9

Risk Reduction

Bladder Irritation

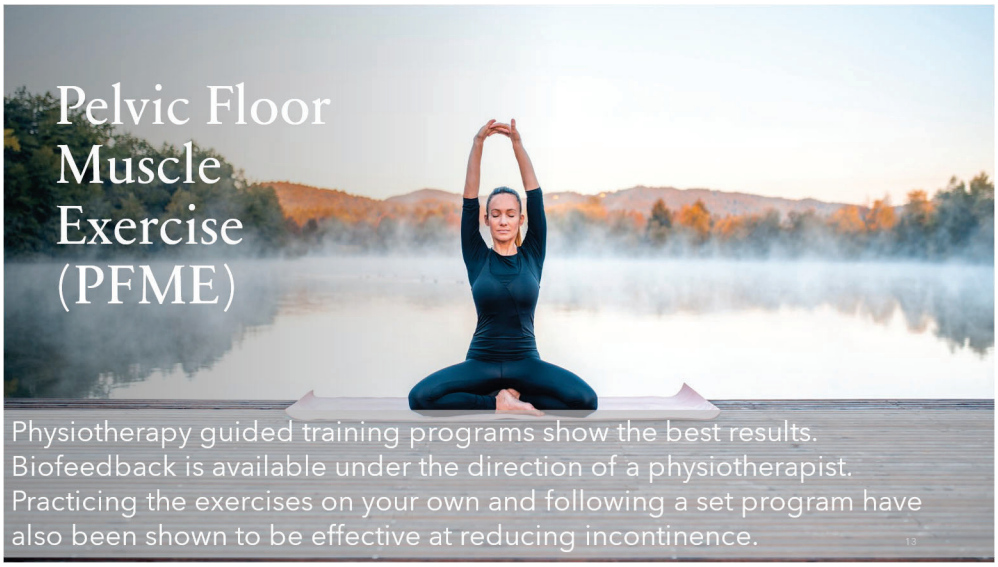


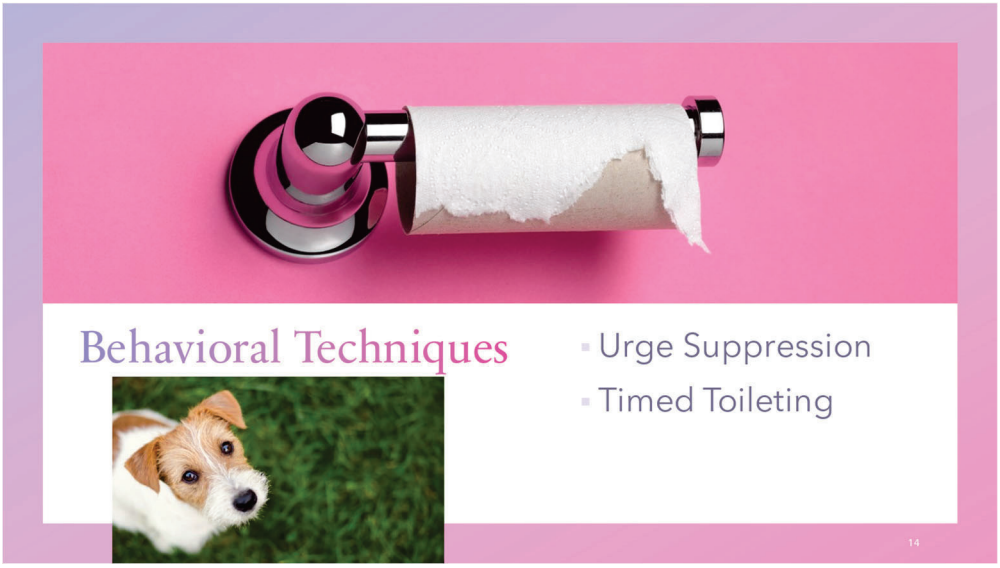
- The bladder is a muscle.
- When it contracts we feel like we need to use the bathroom.
- Some things cause the bladder to contract more often.
- These are called bladder irritants.

Risk Reduction

Bladder Irritants:

- Caffeine
- Alcohol
- Carbonated beverages
- Smoking
- Artificial Sweeteners
- Excess Fluids (Not irritating but can contribute)


Pelvic Floor Muscle Exercise (PFME)
Physiotherapy guided training programs show the best results.
Biofeedback is available under the direction of a physiotherapist.
Practicing the exercises on your own and following a set program have also been shown to be effective at reducing incontinence.
13


Behavioral Techniques
Urge Suppression
Timed Toileting
14


Vaginal Inserts
Pessaries, Tampons
This Photo by Unknown Author is licensed under CC BY-NC-ND
15

Other Treatments

Medications

- Anticholinergics, are most effective for urge incontinence and overactive bladder. Side effects can be dry mouth, eyes, constipation.
- Vaginal Estrogen

Third-Line Treatments

- Usually provided by Urologist, Gynecologists or Urogynecology.
- Includes Botox injections to the bladder, peri-urethral buking agent, neuromodulation, and other treatments. There may be a cost for these types of treatments.

Surgery

- Usually provided by Gynecology or Urogynecology.
- There are different surgeries available. You would need assessment by the surgeon to determine your eligibility.

16

17

Support

- Discussing this topic can cause distress, shame, embarrassment.
- Many women feel they are the only ones suffering with this. You are not alone!
- Urinary Incontinence can have very detrimental effects. Talk to someone if you need additional support.

18

Please complete the evaluation

19

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APPENDIX G: PROGRAM DESCRIPTION

HORNS RECREATION

Can't jump on a trampoline anymore?

Must wear a pad to workout?

Did you know that many women suffer from pelvic health dysfunction, and they **don't even realize it?**

Did you know that urinary incontinence is extremely common and is *TREATABLE* and *PREVENTABLE?*

Would you like to learn more about pelvic health and what you can do to keep your pelvic floor in tip top shape?

Join us for a

PELVIC HEALTH SEMINIAR FOR WOMEN:

Urinary Incontinence Prevention and Treatment

Presented by Jessica Price, Registered Nurse with the Pelvic Floor Clinic Lethbridge, Master of Nursing student

Offered on two dates at the Lethbridge University:

Monday June 20th: 9:00-11:00 am

Wednesday June 22nd: 6:00-8:00 pm

Cost:

University fitness members/ Starr/ Faculty ~ Free

Non-members ~ 5$

Registration available online at the University of Lethbridge Horns Recreation website or call (403) 329-2706

APPENDIX H: MARKETING POSTER