

Conference Paper

The Prevalence of Pelvic Organ Prolapse in Coastal Community from Riau Province

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ABSTRACT

A woman's quality of life is determined by their physical, psychosocial, and sexual function. These functions are impaired with pelvic organ prolapse (POP), causing a vast burden, individually and globally. With its geographic location, the coastal community may have difficulties in seeking medical attention as the health care facilities provided are limited. To date, no study has been conducted to identify the POP prevalence rate among the coastal community of Riau Province as one of the coastal areas in Indonesia. This study aims to help in determining problems caused by POP, eventually designing effective prevention and treatment strategies to be proposed to health policymakers. This is a quantitative study with all reproductive ages (20 - 44 years old) and >44 years old women in 4 coastal areas in Riau Province (Bengkalis, Dumai, Siak, and Pekanbaru) as the key population. The validated Pelvic Floor Distress Inventory (PFDI) questionnaire in Bahasa Indonesia is used to assess the POP prevalence rate. Out of 343 participants, 204 (63,75%) had POP. The highest POP incidence rate was found in Bengkalis, with a total of 61 (30%) participants with POP. Dumai, Siak, and Pekanbaru had the incidence rate of 59 (29%), 59 (29%), and 25 (12%) consequently. Based on this study, due to the high prevalence of POP, the authors agreed that effective prevention and treatment strategies are needed to prevent the severity and further development of POP.

Keywords: Pelvic organ prolapse, prevalence, coastal community

Introduction

Pelvic organ prolapse (POP) is the descent of one or more of the anterior or posterior vaginal walls, the uterus (cervix), or the vaginal apex (vaginal vault or cuff scar after hysterectomy) (Haylen et al., 2010). POP prevalence in studies varies greatly due to the use of different definitions, the heterogeneity of different study populations, and population sampling procedures (Hunskaar et al., 2004). Its prevalence rate increases within age and parity.

The estimated global POP prevalence rate reported was 9%, but the most recent report of POP prevalence rate in 16 low-income developing countries is significantly higher, ranging from 3.4 to 56.4 percent (Nygaard et al., 2015). While there is no exact number of POP prevalence rates in Indonesia. According to a 2017 study, there were 52 cases (26.4%) of POP between January and April 2016. A study conducted in Surabaya between 2013 and 2016 discovered 200 cases of POP, with 38.9% of them being women aged 60 to 69. According to a study conducted by Nizomi in East Java, the most common type of POP is uterine prolapse. Nevertheless, there is still a defined number of publications regarding POP prevalence rate in Riau Province as one of the coastal areas in the country which needed close attention due to limited access to healthcare facilities.

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Material and Methods

This is an analytical quantitative survey study to identify the prevalence rate of POP in coastal communities as well as the burden and decrease on patients' quality of life. The study will be conducted in several coastal areas of Riau Province (Bengkalis, Dumai, Rumbai, and Siak) from January 2022 and will be going on for a year. Reproductive women with an average of 20 - 44years old and more than 44 years old in a coastal area as the key population. Study samples are the ones who met the inclusion and exclusion criteria, where the only inclusion criteria are willing to fill out a questionnaire provided. The exclusion criteria are women with a history of hysterectomy, gynecology malignancy history, and currently pregnant. Participants were asked to fill out a validated Pelvic Floor Distress Inventory (PFDI) questionnaire in Bahasa Indonesia is used as an instrument to assess POP prevalence rate among the sample (Kurniawati, 2018). Data were collected by asking questions from validated questionnaires to visitors/ patients in healthcare facilities and willing to sign the consent form. POP classification and severity were assessed by the PFDI questionnaire. A patient who was identified as POP will be asked in-depth questions regarding the influencing factors. Following data collection, data will be analyzed through a statistical program and will go through the process of editing, coding, and data processing with a statistical analyzing program. Data will be analyzed univariately to identify the prevalence rate and characteristics of the study population.

Results and Discussion

343 subjects met the inclusion and exclusion criteria, which then were considered as key populations with the characteristics of the study shown in Table 1. Based on the PFDI questionnaire, there were as many as 63.75% (204/320) subjects diagnosed with pelvic organ prolapse (POP) with the distribution of cases in each coastal area shown in Figure I, with the case distribution shown in Figure 2.

Variable	Ν	%	
Age			
<20	6	1,7	
20 - 44	171	49,9	
>44	166	48,4	
Parity			
0	10	3	
1 – 2	141	42	
3 – 5	166	49	
> 5	20	6	
Occupation			
Housewife	135	41	
Employee	101	30,7	
Merchant	34	10,3	
Self-employed	59	18	
Education			
Low (primary to high school)	212	62,2	
High (beyond high school)	129	37,8	

Table 1. Distribution of POP population characteristics (n = 343)



Figure 1. POP Case distribution in Riau Coastal Area (n= 204)



Figure 2. Distribution of POP types

Out of 343 participants, 204 (63,75%) of them had pelvic organ prolapse (POP). Assessing the actual prevalence rate of POP might be challenging since it may vary widely depending on the criteria that are used. There is no clear agreement on how much POP is a normal variation in female pelvic support and how much is a true disorder. Pelvic organ prolapse can affect women of all ages, but it increases with age, reaching a peak of 5% in the 60 to 69 years old population (Wu et al., 2010). POP prevalence rates ranged from 25 to 97 percent of the population, depending on severity. On physical examination, 41-50 percent of women have some degree of prolapse, but only 3 percent of patients report symptoms. In a review article published as part of the Fifth International Collaboration on Incontinence, Barber et al. found that POP based on vaginal examination was present in up to 50% of women. In the Women's Health Initiative (WHI), 41% of women aged 50 to 79 years had POP symptoms. The number of women with pelvic organ prolapse is expected to rise by 46 percent to 4.9 million by 2050.

This study found that most of the subject diagnosed with POP is more than 44 years old (27,5%). Age affects the severity of POP; it is supported by data from the International Urogynecology Journal that stated around 30% of POP cases are found in women >40 years old. A

high POP prevalence rate is found in women more than 40 years old, geriatrics, and postmenopausal women, with a prevalence rate of around 41-50%. Another study found an association between age and POP incidence. With age, pelvic floor structures become weaker. This is linked with the decrease of ovary functionality in old age and menopausal women. Decreases in estrogen cause changes in the synthesis and degradation of extracellular matrix protein. In menopausal women, it was also found that there is a deficiency of type I collagen that is necessary for the support of pelvic floor structures. In turn, in post-menopausal women, there is an increase in type III collagen which is less elastic and resulted in the weakening of the uterosacral and cardinal ligaments, endopelvic fascia, and muscles as a support for the pelvic floor, which in turn causes POP.

Several risk factors associated with POP found in this study include age more than 44 years old (51,5%), three or more parity (62,2%), and low educational status (64,2%). Age as a risk factor is associated with menopause, a decrease in estrogen levels in menopausal women may decrease muscle flexibility and pelvic organ resistance. Furthermore, vaginal delivery may cause stretching, compression, and avulsion of musculature and cause further damage to the pelvic floor structure. In a recent survey done by Gyhagen and colleagues on 5.236 primiparous women 20 years after a vaginal or cesarean delivery, they found that as much as 31,7% had at least one symptomatic pelvic floor dysfunction and 14,8% of them had two or more symptoms. This explains parity as one of the risk factors of POP. Vaginal delivery increases the likelihood of POP symptoms and prevalence rate as about 1 in 10 women who had vaginal delivery sustain an avulsion injury to the pubococcygeus muscle during delivery. Socioeconomic levels including education affect living habits and disease awareness. We found 64,2% of patients had low educational status. These patients did not see a doctor until an average of 5 years after the onset of POP, which is significantly delayed compared to those with higher educational levels. People with lower educational levels may have an insufficient understanding of POP and its symptoms, and thus do not feel the need to seek medical attention which leads to a decrease in their quality of life.

By understanding the prevalence rate of POP, healthcare providers are expected to be able to screen for the disorder and provide treatment for those who are affected, thereby improving patients' quality of life and decreasing the economic burden on individuals and our healthcare system. Therefore, based on this study, the authors agreed that we need prevention and effective treatment strategies to prevent the severity and further development of POP.

Conclusion

The POP prevalence rate among Riau coastal community is 63,75 percent. Some factors that played a major role in the development of POP found in this study include age more than 44 years old, 3 or more parity, and low educational status. Through this study of the prevalence rate, healthcare providers are expected to acknowledge and manage this issue along with health policymakers. Government policies and strategies are necessary to prevent the further development of the POP prevalence rate and global burden caused by POP.

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