Probiotics: An Armament for Vaginal Healthcare

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Sir,

Vaginitis, inflammation, or infection of the vagina, is common in women during the reproductive years and could be symptomatic or asymptomatic. Since the first report by Gardner and Dukes in 1955, researchers have been unable to establish the etiologic cause of vaginitis. Vaginitis is caused by a variety of infectious agents. These infections could lead to sexually transmitted diseases, endometritis, pelvic inflammatory disease, infertility, and cancer, and during pregnancy, increase the possibility of adverse pregnancy complications. As per a recent report, the global prevalence of bacterial vaginal infections in the general population ranges from 23 to 29%, where South Asia accounts for the highest incidence (29%).1 Further, a significant proportion (35.3%) of bacterial vaginosis (BV) was reported in Pakistan.2 Among pregnant women, the prevalence of BV was 37 and 39% in Bangladesh3 and Nepal,4 respectively, and was also associated with premature deliveries and a higher risk of late miscarriage.

The actual incidence of vaginal infection in India is not known, but it is assumed to be greater due to social behaviors, cultural behaviors, and the stigma women experience, which prevents them from acquiring knowledge, testing, and seeking treatment for vaginitis. In addition, poor menstrual hygiene practices are also strongly associated with an increased prevalence of vaginal infections.5 Douching is a prevalent technique among rural women for personal hygiene and to prevent pregnancy. Douching alters the vaginal microenvironment, increasing susceptibility to vaginal infections and cervical cancer. Besides, the low availability of female physicians in rural India decreases the access of women to reproductive healthcare.

Vaginitis has an increased incidence (48%) among human immunodeficiency virus positive women in India6 and is also likely to be associated with infertility. Diversity in vaginal microbiota contributes to bacterial vaginal infection, and this is influenced by various major factors such as ethnicity and genetic inheritance. An appropriate diagnosis is always crucial for the effective treatment of vaginitis; however, treatment is largely empirical. As per recent guidelines from the Centers for Disease Control and Prevention 2021, vaginitis should be treated with a standard antibiotic regimen. However, increasing antimicrobial resistance (AMR) of pathogens and chronic recurrent infections are a global threat, and newer strategies to combat AMR are required.

A recent meta-analysis study found that probiotics are safe and may have both short- and long-term benefits for the treatment of vaginitis.7 However, managing recurrent vaginitis is challenging, and restoring normal vaginal flora using probiotics in conjunction with pharmacological therapy would be a better method to enhance the response rate and prevent the recurrence of vaginitis.

Lactobacillus species are the commensals that inhabit the urogenital tract and protect against various reproductive tract infections and are also the predominant species in the vaginal microbiome of Asian women. Currently, the available probiotics in the market mainly include two or more species of Lactobacillus and/or Bifidobacterium from different environmental sources; the inclusion of the specific species from the vagina as probiotics is unclear.

Probiotics for vaginal health could improve the quality of life in women where antibiotics are ineffective in curing infection. However, there have been debates regarding the success of probiotic therapy in improving the vaginal microbiota, which could be due to the compositional quality of the probiotic formulations. Choosing appropriate probiotics with good viability and optimal functionality remains a global challenge, with particular concern in developing countries such as India and Pakistan. Herein, considering the ethnicity variation in women in India, the indigenous beneficial microbes inhabiting the vagina could be more advantageous to ward off infections. The probiotics and their constituents could be used as oral or vaginal capsules/tablets or incorporated in hygienic materials with prebiotics to promote the growth of probiotics. This challenge can be achieved in collaboration with regulatory authorities, research groups, and relevant industries.

Increased awareness and improvement in menstrual health have been successfully implemented in India under Menstrual Hygiene Management scheme, which was established under the National Health Mission program in 2011. The scheme could be expanded further to women of reproductive age to encourage and facilitate regular screening for vaginal infections. Primary health care workers and physicians play an important role in providing service at the ground level and should be empowered with adequate knowledge about the diagnosis of vaginal infections and the usage of probiotics to treat these infections. In addition, an increase in resources directed toward public health policy can help to develop public interest and awareness about the impact of probiotics on women’s health.

Contributions

IKC and CA: Conceptualization and manuscript preparation. Both authors reviewed the manuscript.

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