

OB/GYN Clinical [ALERT]

Evidence-based commentaries
on women's reproductive health

ABSTRACT & COMMENTARY

Does Talcum Powder Cause Ovarian Cancer?

By *Melissa Moffitt, MD*

Assistant Professor of Oncology, Department of Gynecologic Oncology, Roswell Park Comprehensive Cancer Center, Buffalo, NY

Dr. Moffitt reports no financial relationships relevant to this field of study.

SYNOPSIS: In this analysis of four large cohort studies, genital talcum powder use was not found to have any association with ovarian cancer.

SOURCE: O'Brien KM, Tworoger SS, Harris HR, et al. Association of powder use in the genital area with risk of ovarian cancer. *JAMA* 2020;323:49-59.

This study pooled four large U.S. cohort studies, including the Nurses' Health Study (NHS; n = 81869, enrolled 1976, followed until 2016); the Nurses' Health Study II (NHSII; n = 61261, enrolled 1989, followed until 2017); the Sister Study (SIS; n = 40647, enrollment began 2003, followed until 2017); and the Women's Health Initiative Observational Study (WHI-OS; n = 73267, enrollment began 1993, followed until 2017). Initial questionnaires did not inquire about powder use. When they did, each study asked about powder use differently. To pool the data, researchers grouped the participants into ever users of genital powder vs. never users of genital powder.

Participants also were grouped into long-term users (> 20 years use) and frequent users (at least once weekly). Thirty-nine percent of study participants reported using powder on their genitals.

Cohort study participants who previously had been diagnosed with ovarian cancer, undergone bilateral salpingoophorectomy, or were missing powder use data or covariate data (such as age, parity, or race) were excluded, leaving 250,577 women for evaluation.

Follow-up questionnaires asked about new cancer diagnoses. There were 2,168 ovarian

Financial Disclosure: *OB/GYN Clinical Alert's* Editor Jeffrey T. Jensen, MD, MPH, reports that he is a consultant for Bayer, Sebela, TherapeuticsMD, and CooperSurgical; and he receives grant/research support from AbbVie, Bayer Healthcare, Merck, Estetra SPRL, Medicines360, and Daré Bioscience. Peer Reviewer Catherine Leclair, MD; Nurse Planner Marci Messerle Forbes, RN, FNP; Editorial Group Manager Leslie Coplin; Editor Jason Schneider; and Executive Editor Shelly Mark report no financial relationships relevant to this field of study.

[INSIDE]

Impact of Weight Loss
on UI in Overweight
and Obese Women
page 3

Young Cancer Survivors
at Increased Risk
of Endocrine Disease
page 4

The Global COVID-19
Pandemic Was Predicted
and Ignored
page 6

OB/GYN Clinical Alert (ISSN 0743-8354) is published monthly by Relias LLC, 1010 Sync St., Ste. 100, Morrisville, NC 27560-5468. Periodicals postage paid at Morrisville, NC, and additional mailing offices. POSTMASTER: Send address changes to OB/GYN Clinical Alert, Relias LLC, 1010 Sync St., Ste. 100, Morrisville, NC 27560-5468.

GST Registration Number: R128870672.

© 2020 Relias LLC. All rights reserved. No part of this newsletter may be reproduced in any form or incorporated into any information-retrieval system without the written permission of the copyright owner.

This is an educational publication designed to present scientific information and opinion to health professionals to stimulate thought and further investigation. It does not provide advice regarding medical diagnosis or treatment for any individual case. It is not intended for use by the layman.

SUBSCRIBER INFORMATION
(800) 688-2421
customerservice@reliamedia.com
ReliasMedia.com

Questions & Comments:
Please contact Editor Jason Schneider, at
jschneider@relias.com

Back issues: \$42. Missing issues will be fulfilled by customer service free of charge when contacted within one month of the missing issue's date.
Canada: Add 7% GST and \$30 shipping.
Elsewhere: Add \$30 shipping.

ACCREDITATION
Relias LLC is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Relias LLC designates this enduring material for a maximum of 2 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Relias LLC is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Contact hours [2] will be awarded to participants who meet the criteria for successful completion. California Board of Registered Nursing, Provider CEP# 13791.

This CME activity is intended for the OB/GYN. It is in effect for 36 months from the date of the publication.

cancer diagnoses, 1,884 of which were confirmed with medical records. Others were self-reported, while some were garnered from the National Death Index. All cases of ovarian cancer, fallopian tube cancer, or peritoneal cancers were counted as ovarian cancer irrespective of medical confirmation. Cox proportional hazard was used to measure the association between genital powder use and ovarian cancer, adjusting for confounders, including age, ethnicity, parity, and others.

Multiple subgroup analyses were performed. They separated those with alterations to their reproductive tract patency, grouping them by those who underwent hysterectomy vs. tubal ligation vs. patent, for analysis. Additionally, analysis was performed for those whose cancer was medically confirmed, and they were divided into groups based on histology, invasive vs. borderline, and primary location (ovary, tube, or peritoneum). Additionally, women born before 1945 were looked at separately, as they had more time to be exposed to powder containing asbestos, which was removed from talcum in the United States in 1976.

The hazard ratio (HR) for ever use and ovarian cancer diagnosis was 1.08 (95% confidence interval [CI], 0.99 to 1.17). Similarly, no statistically significant difference in the rate of ovarian cancer diagnoses was identified when considering only women with patent reproductive tracts, frequent powder users, long-term powder users, or medically confirmed cancers. Even for the older study participants, the HR was 1.09 (95% CI, 0.99 to 1.19).

■ COMMENTARY

Frequently, patients inquire if their ovarian cancer could have been caused by talcum powder use. Commercials, billboards, and radio advertisements encourage ovarian cancer patients who have ever used talcum powder to contact a lawyer to see if they are eligible to sue for damages. Judgements against Johnson & Johnson have awarded billions of dollars to talcum powder users with ovarian cancer.¹

Asbestos and talc occur together in nature, thus talcum powder contained

asbestos prior to its being banned by cosmetic companies in 1976. Talcum, whether it contains asbestos or not, can increase inflammation and potentially can be a cofactor in carcinogenesis.²

Published studies that evaluate if there is an association between talcum use and ovarian cancer date back decades. Some retrospective case-control studies, asking ovarian cancer patients if they ever used talcum powder, have suggested an association between powder use and ovarian cancer, but these retrospective studies' findings can be affected by recall bias.

It was suggested that to find a statistically significant association between talc powder use and ovarian cancer, a study of 200,000 women followed for 10 years would need to be undertaken.³ This study, the largest prospective study to date, is just that, assessing more than 200,000 women for more than 10 years. It shows no association between ovarian cancer and talcum use.

Given the lifetime incidence of 1:70, this large, pooled, cohort study still could be underpowered to identify small increased risks for ovarian cancer. It also could be biased, since two of the studies were of nurses — educated women with some medical proficiency. For instance, if the nurses used combined oral contraceptives longer than other women, this would decrease the cohorts' risk of developing ovarian cancer, skewing the results — an example of confounding bias. Nonetheless, this study is robust enough for me to confidently reassure my patients that having used powder on the genitals does not lead to ovarian cancer. ■

REFERENCES

1. Reuters. J&J shares drop after jury orders company to pay nearly \$4.7 billion in Missouri asbestos cancer case. Updated July 13, 2018. <https://www.reuters.com/article/us-johnson-johnson-cancer-lawsuit-idUSKBN1K234U>
2. Steffen JE, Tran T, Yimam M, et al. Serous ovarian cancer caused by exposure to asbestos and fibrous talc in cosmetic talc powders – A case series. *J Occup Environ Med* 2020;62:e65-e77.
3. Narod SA. Talc and ovarian cancer. *Gynecol Oncol* 2016;141:410-412.

Impact of Weight Loss on Lower Urinary Symptoms and Urinary Incontinence in Overweight and Obese Women

By *Chiara Ghetti, MD*

Associate Professor, Obstetrics and Gynecology, Division of Female Pelvic Medicine and Reconstructive Surgery, Washington University School of Medicine, St. Louis, MO

Dr. Ghetti reports no financial relationships relevant to this field of study.

SYNOPSIS: Weight loss interventions are associated with improvements in urinary incontinence in overweight and obese women at 1 to 2.9 years.

SOURCE: Yazdany T, Jakus-Waldman S, Jeppson PC, et al. American Urogynecologic Society Systematic Review: The impact of weight loss intervention on lower urinary tract symptoms and urinary incontinence in overweight and obese women. *Female Pelvic Med Reconstr Surg* 2020;26:16-29.

The main objective of this study was to evaluate existing data on the impact of weight loss interventions (behavioral and surgical) on lower urinary tract symptoms in overweight and obese women. This systematic review was conducted by the American Urogynecologic Society Systematic Review Group and registered at Prospero.

Researchers searched PubMed, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), and the Cochrane Library for English-language articles from Jan. 1, 1990, to Dec. 1, 2018. Full-text articles were selected based on set inclusion and exclusion criteria. Studies eligible for this study included randomized, controlled trials and cohort and case-control studies. Case series were included only if pre- and post-intervention outcomes were reported. Studies included women ≥ 18 years old whose mean body mass index (BMI) was 30 or greater enrolled in behavioral or surgical weight loss programs and with symptoms of urinary incontinence or overactive bladder. Behavioral weight loss interventions included diet modification, exercise programs, medications, and/or counseling. Review articles were excluded, as were studies of subjects with interstitial cystitis, bladder pain syndrome, fistulas, pelvic cancer, urinary retention, neurogenic bladder, spinal cord injury, or subjects who had undergone pelvic irradiation or were pregnant. Only data pertaining to women were included in the reported study.

Evidence for certainty of outcomes was categorized using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) and was rated as high, moderate, low, and very low certainty. A grade of high certainty means the authors were very confident that the real outcome or true effect

comes close to the estimated, while very low certainty evidence means the authors had very little confidence in the estimate, and that the real effect is likely to be significantly different from the estimate. The authors found high-certainty evidence that behavioral weight loss (diet and exercise) leads to moderate reduction in the prevalence of stress urinary incontinence and overall urinary incontinence (12% to 18% collectively). However, there is low-certainty evidence on the long-term impact of behavioral weight loss interventions, and only moderate to low certainty evidence exists regarding the effects of weight loss on urge incontinence and overactive bladder symptoms. To date, there is very low evidence about the effect of surgical weight loss on urinary symptoms, and there are no randomized studies.

■ COMMENTARY

Urinary incontinence affects nearly half of all women.¹ Obesity is a strong independent risk factor for urinary incontinence.² Obesity is a growing public health problem worldwide, with a prevalence of 42.4% in the United States in 2017-2018.³ Epidemiologic studies indicate a 20% to 70% increase in the risk of incontinence with each five unit increase in BMI, and prior studies have shown improvements in urinary incontinence symptoms with weight loss. The goal of this study was to evaluate the existing evidence supporting weight loss for the treatment of urinary incontinence to aid in treatment recommendations.

The authors found strong evidence to support improvement of urinary incontinence in the short term following behavioral weight loss. However, it appears that weight loss benefits may diminish over time. In light of this evidence, the authors suggest

providers not delay treatment of incontinence in women not interested in weight loss.

The treatment of urinary incontinence often is multimodal and certainly should not be delayed. However, the relationship between obesity and urinary incontinence treatment is not simple, either. In a retrospective cohort study of 431 subjects undergoing midurethral sling, Elshatanoufy et al found that patients with class 3 obesity (BMI \geq 40 kg/m) were twice as likely to fail treatment and had either postoperative stress urinary incontinence symptoms or required additional treatment for stress urinary incontinence.⁴ In another recent study of the British Society of Urogynaecology database of 11,859 women treated with midurethral sling, Bach et al found that patient-reported subjective urinary incontinence symptoms, measured by validated measures, worsened as BMI increased.⁵ An earlier systematic review and meta-analysis by Greer et al suggested that midurethral sling cure rates were lower in obese women.⁶ There are significant knowledge gaps in both understanding the long-term effects of weight loss and the effects of surgical weight loss in the treatment of urinary incontinence. More studies also are needed to better understand the long-term effectiveness of surgical interventions for urinary incontinence in obese patients.

In pondering these relationships between obesity, weight loss, and incontinence, we must not forget the very important reality that obesity is the second most common cause of preventable death. Each five-unit increase in BMI confers approximately 30% higher overall mortality.^{7,8} Obesity increases the risk of cancer, hypertension, heart disease, diabetes,

stroke, sleep apnea, and musculoskeletal disorders. As providers addressing the quality of life burden of urinary incontinence, it is imperative we counsel our patients extensively about the risks of obesity while building a therapeutic partnership to promote changes that will lead to weight loss. Although weight loss may not provide long-term urinary symptom reduction, the consequences of persistent obesity are formidable. ■

REFERENCES

1. Sampsel CM, Harlow SD, Skumick J, et al. Urinary incontinence predictors and life impact in ethnically diverse perimenopausal women. *Obstet Gynecol* 2002;100:1230-1238.
2. Subak LL, Richter HE, Hunskaar S. Obesity and urinary incontinence: Epidemiology and clinical research update. *J Urol* 2009;182:S2-S7.2.
3. Centers for Disease Control and Prevention. Prevalence of obesity and severe obesity among adults: United States, 2017-2018. Published February 2020. <https://www.cdc.gov/nchs/products/databriefs/db360.htm>
4. Elshatanoufy S, Matthews A, Yousif M, et al. Effect of morbid obesity on midurethral sling efficacy for the management of stress urinary incontinence. *Female Pelvic Med Reconstr Surg* 2019;25:448-452.
5. Bach F, Hill S, Toozs-Hobson P. The effect of body mass index on retropubic midurethral slings. *Am J Obstet Gynecol* 2019;220:371.e1-371.e9.
6. Greer WJ, Richter HE, Bartolucci AA, Burgio KL. Obesity and pelvic floor disorders: A systematic review. *Obstet Gynecol* 2008;112:341-349.
7. Flegal KM, Graubard BI, Williamson DF, Gail MH. Excess deaths associated with underweight, overweight, and obesity. *JAMA* 2005;293:1861-1867.
8. Prospective Studies Collaboration, Whitlock G, Lewington S, et al. Body-mass index and cause-specific mortality in 900 000 adults: Collaborative analyses of 57 prospective studies. *Lancet* 2009;373:1083-1096.

ABSTRACT & COMMENTARY

Young Cancer Survivors at Increased Risk of Subsequent Endocrine Disease

By Robert W. Rebar, MD

Founding Chair Emeritus and Professor, Department of Obstetrics and Gynecology, Western Michigan University Homer Stryker M.D. School of Medicine, Kalamazoo, MI

Dr. Rebar reports no financial relationships relevant to this field of study.

SYNOPSIS: A large Danish-based population cohort study documents that survivors of cancers arising in adolescence and young adulthood are at increased risk of subsequently developing a variety of endocrine disorders.

SOURCE: Jensen MV, Rugbjerg K, de Fine Licht S, et al. Endocrine late effects in survivors of cancer in adolescence and young adulthood: A Danish population-based cohort study. *JAMA Netw Open* 2018;1:e180349. doi:10.1001/jamanetworkopen.2018.0349

Because survivors of cancers in adolescence and young adulthood (defined as those in whom cancer was diagnosed between the ages of 15 and 39 years) are becoming increasingly common, it is important to know what risks these individuals

will have in later life. Studies of the long-term sequelae of cancers have focused largely on those in childhood cancer survivors, despite evidence that cancers are seven-fold more frequent in adolescents and young adults.¹ More than 32,500

one-year cancer survivors aged 15 to 39 years at diagnosis and identified from the Danish Cancer Registry over a 30-plus-year period ending Dec. 31, 2010, were compared to more than 188,700 cancer-free comparators matched by year of birth and sex, randomly selected from the Danish Card Registration system. Follow-up was for a median of 10 years, with a range of 0 to 34 years. A total of 2,129 survivors (6.5%) had at least one hospital contact or an endocrine disease, while 1,232 (3.8%) would have been anticipated, yielding a statistically significant increased relative risk (RR) of 1.73 (95% confidence interval [CI], 1.65-1.81). The risk for any endocrine disease compared to the risk in the normal population was higher in male survivors (RR, 2.41; 95% CI, 2.23-2.61) than in female survivors (RR, 1.46; 95% CI, 1.38-1.55), according to the authors, due likely because of the lower background rate of endocrine disease in males. The younger the age at cancer diagnosis, the greater the RR, and the risk of new-onset endocrine disease generally decreased with time after cancer diagnosis. The highest RRs were seen for testicular hypofunction (RR, 75.12; 95% CI, 45.99-122.70), ovarian hypofunction (RR, 14.65; 95% CI, 8.29-25.86), and pituitary hypofunction (RR, 11.14; 95% CI, 8.09-15.34).

Disorders of the thyroid gland, testicular dysfunction, and diabetes were the principal reasons for hospital contacts. The highest RRs for any endocrine disease were found in survivors of leukemia (RR, 3.97; 95% CI, 3.10-5.09), Hodgkin's lymphoma (RR, 3.06; 95% CI, 2.62-3.57), and brain cancer (RR, 3.03; 95% CI, 2.53-3.64). Survivors of Hodgkin's lymphoma had a particularly high excess risk for hypothyroidism. Individuals diagnosed with cancer after 1990 had an increased RR of endocrine disease that was 48% higher compared to those diagnosed prior to that time, likely because of changes in treatment protocols and increased patient survival. The within-cohort analysis showed that sex modified the risk for endocrine disease, with female survivors at greater risk than male survivors.

■ COMMENTARY

Although this study was published several months ago, it only recently came to my attention, and I believe it has important implications for women's healthcare providers. I have been intrigued by the relationship between cancer survivors and endocrine dysfunction since I first started seeing young women with premature ovarian failure early in my career.

As a fellow at the National Institutes of Health in the mid-1970s, I learned about young survivors of leukemia who developed hypothalamic-pituitary dysfunction or evidence of ovarian dysfunction, sometimes leading to permanent failure and sometimes reversible. The report of those patients was among the first suggesting that irradiation and

chemotherapy (especially with alkylating agents) together affected endocrine function.²

That irradiation can affect ovarian function has been known since 1939 when Jacox³ noted that irradiation of the ovaries with 800 rads over three days usually was enough to induce ovarian failure. Permanent amenorrhea, with gonadotropin concentrations increased into the range found in postmenopausal women, occurs in slightly less than half of the women undergoing irradiation as partial treatment for Hodgkin's disease and receiving 400 to 600 rads to the ovaries over four to six weeks. In others, only temporary hypergonadotropic amenorrhea results.^{4,5}

Regarding chemotherapeutic agents, the effects of cyclophosphamide on ovarian function have been studied most extensively, beginning several years ago.⁶ Reversible ovarian "failure" has been reported following administration of cyclophosphamide as well as other alkylating agents.^{2,6} In general, for both chemotherapeutic agents and irradiation, the younger the woman, the less likely the ovarian endocrine dysfunction is to be permanent. This is logical because there obviously are more primary and primordial follicles in younger women compared to older women of reproductive age.

There has been a recent effort to publicize the need for clinicians caring for young women with treatable malignancies to consider preserving embryos, oocytes, or ovarian tissue (depending on the circumstances) prior to initiation of therapy with chemotherapeutic agents and/or abdominal irradiation so that future pregnancies are possible following "cure."^{7,8} Unfortunately, too few young women are apprised of these possibilities at present.

This article points out that those of us who see these patients need to be mindful of endocrine dysfunction that does not involve the ovary or the hypothalamic-pituitary unit, particularly thyroid dysfunction and diabetes. It behooves us to focus on more than just ovarian function in young women who are cancer survivors. That is the lesson from this article in a journal not commonly read by women's health providers that should not be forgotten. Remember, too, that endocrine dysfunction can occur in young men who survive cancer, as well. ■

REFERENCES

1. Coccia PF, Altman J, Bhatia S, et al. Adolescent and young adult oncology. Clinical practice guidelines in oncology. *J Natl Compr Canc Netw* 2012;10:1112-1150.
2. Siris ES, Leventhal BG, Vaitukaitis JL. Effects of childhood leukemia and chemotherapy on puberty and reproductive function in girls. *N Engl J Med* 1976;294:1143-1146.
3. Jacox HW. Recovery following human ovarian irradiation. *Radiology* 1939;32:538-545.

4. Baker JW, Morgan RL, Peckham MJ, Smithers DW. Preservation of ovarian function in patients requiring radiotherapy for para-aortic and pelvic Hodgkin's disease. *Lancet* 1972;1:1307-1308.
5. Ray GR, Trueblood HW, Enright LP, et al. Oophoropexy: A means of preserving ovarian function following pelvic mega-voltage radiotherapy for Hodgkin's disease. *Radiology* 1970;96:175-180.
6. Koyama H, Wada T, Nishizawa Y, et al. Cyclophosphamide-induced ovarian failure and its therapeutic significance in patients with breast cancer. *Cancer* 1977;39:1403-1409.
7. Oktay K, Harvey BE, Partridge AH, et al. Fertility preservation in patients with cancer: ASCO clinical practice guideline update. *J Clin Oncol* 2018;36:1994-2001.
8. Practice Committee of the American Society for Reproductive Medicine. Fertility preservation in patients undergoing gonadotoxic therapy or gonadectomy: A committee opinion. *Fertil Steril* 2019;112:1022-1033.

SPECIAL EDITORIAL

The Global COVID-19 Pandemic Was Predicted and Ignored

By Jeffrey T. Jensen, MD, MPH, Editor

SYNOPSIS: The human population explosion, international travel and migration, urbanization, and environmental exploitation set the stage for pandemics, and the trend likely will continue and intensify.

SOURCE: Madhav N, Oppenheim B, Gallivan M, et al. Pandemics: Risks, impacts, and mitigation. In: Jamison DT, Gelband H, Horton S, et al, eds. *Disease Control Priorities: Improving Health and Reducing Poverty*. The International Bank for Reconstruction and Development/The World Bank; 2017.

The World Bank published the latest edition of the monograph *Disease Control Priorities: Improving Health and Reducing Poverty* in 2017. Chapter 17 details “Pandemics: Risks, Impacts, and Mitigation.” Although I typically would prefer a more recent reference, this provides a sobering commentary on our current situation.

The chapter defines pandemics as large-scale outbreaks of infectious disease that increase morbidity and mortality over a wide geographic area and cause significant economic, social, and political disruption. The likelihood of pandemics has increased over the past century because of increased global travel, urbanization, and extensive exploitation of the natural environment — trends expected to continue and intensify with human population growth. The 2003 severe acute respiratory syndrome (SARS) pandemic led many countries to devise pandemic plans and the World Health Assembly to update the International Health Regulations (IHR) to compel all World Health Organization member states to meet specific standards for detecting, reporting on, and responding to outbreaks. Despite this initial cooperation, many countries have been unable to meet basic requirements for compliance, particularly in resource-limited settings.

Although pandemics have occurred throughout history, data suggest an increasing frequency, largely as a result of an increasing emergence of viral disease from animals. The likelihood of a pandemic is driven by the combined effects of spark risk (where a pandemic is likely to arise) and spread risk

(how likely it is to diffuse broadly through human populations). Unfortunately, geographic regions with high spark risk, such as Central and West Africa, lag behind the rest of the globe in pandemic preparedness. In addition to widespread increases in morbidity and mortality (disproportionately higher in low-resource nations), pandemics also cause economic damage for multiple reasons, including the need for social isolation. Although these present challenges to rich nations, countries with weak institutions and legacies of political instability are particularly vulnerable to social unrest.

The report advocated for strategic investments in high-risk regions to strengthen core public health infrastructure, increase the situational awareness needed to rapidly extinguish sparks that could lead to pandemics, and grow global cooperation to develop surge capacity. No widely accepted, consistent methodology for estimating the economic impacts of pandemics exists. Responses from high-income countries (HICs) bias results, and poor reporting also contributes to weak data on economic effects.

The “zoonotic” transmission of pathogens from animals to humans presents the most likely source of a future pandemic spark. A zoonotic spark can arise from the introduction of a pathogen from either domesticated animals or wildlife. Risk drivers for wildlife sources include bush meat hunting, the use of animal-based traditional medicines, natural resource extraction, and the extension of roads into wildlife habitats, largely driven by population pressure. After a spark, pathogen-specific and

human population-level factors influence the risk of pathogen spread. Dense population concentrations, in particular urban slums, act as foci for disease transmission and accelerate the spread of pathogens. Poor living conditions also increase individual susceptibility to infection. The high mutation rates of ribonucleic acid viruses (influenza, novel coronaviruses, filoviruses [Ebola], and flaviviruses [Zika]) may contribute to their predisposition for zoonotic transmission.

Pandemics cause large morbidity and mortality spikes by overwhelming health systems. In many cases, the number of indirect deaths may be more than double that of direct deaths. For example, during the 2014 West Africa Ebola epidemic, deaths caused by the lack of routine care for malaria, HIV/AIDS, and tuberculosis reached 10,600, nearly equal to the 11,300 deaths directly caused by Ebola.

To curtail pandemic spread, nations require a strong public health infrastructure capable of identifying, tracing, managing, and treating cases; adequate physical and communications infrastructure to channel information and resources; and the financial resources to pay for the disease response and the resulting economic shock. Specific competencies critical to detecting and managing disease outbreaks include surveillance, mass vaccination, and risk communication.

One of the most interesting sections of the report detailed the costs of responding to a pandemic. Contact tracing, face masks, and surveillance provide the greatest return in terms of lowest costs per deaths prevented. Social distancing and quarantine have the greatest cost per death prevented, because of the amount of economic disruption caused by those measures. Evidently, macroeconomic model simulations have identified school closures with the highest cost per death averted, due to productivity loss during a moderately severe pandemic. The report also discussed the importance of conducting further benefit-cost analyses related to assembling stockpiles of vaccines, antiviral drugs, and protective equipment in advance of a pandemic.

To summarize, combating pandemics requires situational awareness, defined as having an accurate, up-to-date view of potential or ongoing infectious disease threats (including thorough traditional surveillance in humans and animals) and the resources (human, financial, informational, and institutional) available to manage those threats. While most pandemic preparedness activities focus on reducing morbidity and mortality after a pandemic has spread, the report urged a broader approach to prevent pandemics that considers human health, animal health, and the environment.

The full report provides additional important details.

Public health officials need to provide accurate information, and identify and address misinformation, rumors, and anxieties. The report highlighted that, in unstable contexts, people tend to believe rumors that confirm their preexisting beliefs and anxieties, and that countering rumors with facts alone will not be sufficient.

As of March 23, 2020, the COVID-19 pandemic has progressed across the country, and social distancing has progressed to include school closures and shelter-at-home orders in many states. Our hospital has shut down elective operations to prepare for an influx of severe cases in the coming weeks.

I decided to highlight this report from 2017 to demonstrate that experts throughout the world have anticipated this pandemic and have thoughtfully considered the best approaches for prevention or management. Although this topic does not directly relate to obstetrics and gynecology, I feel that as clinicians we have an obligation to provide accurate information to our patients and communities as public health specialists.

While the pulmonologists and infectious disease specialists will get us through our short-term crisis, we as obstetricians and gynecologists hold the key to the future. All the root causes of pandemics link directly or indirectly to the growth of Earth's human population. With better policies, increased financial resources, and luck, our collective work in family planning will slow the rate of population growth.

United Nations estimates suggest that our current population of about 7.7 billion will peak at close to 11 billion about year 2100 before gradually stabilizing or declining in the next millennium.¹ Attaining this goal requires rapidly achieving a global total fertility rate of about 2.1, a feat yet to be accomplished. Putting in those intrauterine devices and implants matters, as does support for international family planning efforts.

Perhaps we have reached the tipping point when pandemics will join global warming and loss of biodiversity as signals of the nonsustainable impact of human numbers. Family planning is the most humane and viable strategy for human survival. ■

REFERENCE

1. United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Volume I: Comprehensive Tables. https://population.un.org/wpp/Publications/Files/WPP2019_Volume-I_Comprehensive-Tables.pdf

EDITOR
Jason Schneider

EXECUTIVE EDITOR
Shelly Mark

EDITORIAL GROUP
MANAGER
Leslie G. Coplin

EDITOR
Jeffrey T. Jensen, MD, MPH
Leon Speroff Professor and
Vice Chair for Research
Department of OB/GYN, Oregon
Health & Science University, Portland

ASSOCIATE EDITORS
Rebecca H. Allen, MD, MPH
Associate Professor, Department
of Obstetrics and Gynecology
Warren Alpert Medical School
of Brown University, Women &
Infants' Hospital, Providence, RI

Nicole H. Cirino, MD, CST, IF
Reproductive Psychiatrist,
Associate Professor, Department
of OB/GYN and Department of
Psychiatry, Oregon Health & Science
University, Portland

Chiara Ghetti, MD
Associate Professor,
Obstetrics and Gynecology
Division of Female Pelvic Medicine
and Reconstructive Surgery
Washington University School
of Medicine, St. Louis

M. Camille Hoffman, MD, MSc
Associate Professor, Maternal Fetal
Medicine, University of Colorado
Departments of Ob-Gyn &
Psychiatry

Melissa Moffitt, MD
Assistant Professor of Oncology,
Department of Gynecology
Oncology, Roswell Park
Comprehensive Cancer Center,
Buffalo, NY

Robert W. Rebar, MD
Professor and Chair, Department of
Obstetrics and Gynecology,
Western Michigan University Homer
Stryker M.D. School of Medicine,
Kalamazoo

PEER REVIEWER
Catherine Leclair, MD
Professor, Department of OB/GYN
Oregon Health & Science University,
Portland

NURSE PLANNERS
Marc Messerle Forbes, RN, FNP
Senior Research Associate
Department of OB/GYN, Oregon
Health & Science University, Portland

Andrea O'Donnell, RN, FNP
Senior Research Associate
Department of OB/GYN, Oregon
Health & Science University, Portland

CME/CE OBJECTIVES

Upon completion of this educational activity, participants should be able to:

- Explain the latest data regarding diagnosis and treatment of various diseases affecting women;
- Discuss new data concerning prenatal care, neonatal health, and complications arising in pregnancy and the perinatal period; and
- Discuss the advantages, disadvantages, and cost-effectiveness of new testing procedures in women's health.

CME/CE INSTRUCTIONS

To earn credit for this activity, please follow these instructions:

1. Read and study the activity, using the provided references for further research.
2. Log on to ReliasMedia.com and click on [My Account](#). First-time users must register on the site using the eight-digit subscriber number printed on your mailing label, invoice, or renewal notice.
3. Pass the online test with a score of 100%; you will be allowed to answer the questions as many times as needed to achieve a score of 100%. Tests are taken with each issue.
4. After completing the test, a credit letter will be emailed to you instantly.
5. Twice yearly after the test, your browser will be directed to an activity evaluation form, which must be completed to receive your credit letter.

CME/CE QUESTIONS

1. **Talcum use on the perineum:**
 - a. is a known cause of ovarian cancer.
 - b. probably can cause ovarian cancer.
 - c. is not a known cause of ovarian cancer.
 - d. is a known cause of ovarian cancer, when used frequently.
2. **Obesity and urinary incontinence are interrelated. Which of these statements is true?**
 - a. Weight loss does not provide long-term improvement in urinary symptoms and should not be emphasized.
 - b. Obesity negatively affects patients' long-term health and increases mortality risk.
 - c. Obesity does not affect urinary incontinence treatment.
 - d. Obesity is not a risk factor for urinary incontinence.
3. **According to the Danish study, survivors of cancers in adolescence and young adulthood do *not* have an increased risk for which of the following abnormalities?**
 - a. Hypothalamic-pituitary dysfunction
 - b. Hypothyroidism
 - c. Testicular dysfunction
 - d. Thymoma
4. **The younger the individual is at the age of cancer diagnosis, the more likely it is that:**
 - a. he or she will develop an endocrine disorder.
 - b. any ovarian dysfunction will be permanent in women.
 - c. the patient will develop a thymoma.
 - d. type 2 diabetes mellitus will occur more than 30 years later.
5. **Based on the findings of the World Bank 2017 report, which of the following is *not* associated with the risk of global pandemics?**
 - a. Strategic investments in high-risk regions to strengthen core public health infrastructure and increase situational awareness
 - b. Focused attention to prevent economic slowdown in rich nations
 - c. Rapid human population growth
 - d. High levels of travel and migration

[IN FUTURE ISSUES]

Should Metronidazole Be Added Routinely
to Treatment Regimens for Pelvic Inflammatory Disease?

Interested in reprints or posting an article to your company's site? There are numerous opportunities for you to leverage editorial recognition for the benefit of your brand. Call us at (800) 688-2421 or email reprints@reliamedia.com to learn more.

For pricing on group discounts, multiple copies, site licenses, or electronic distribution, please contact our Group Account Managers at:
Phone: (866) 213-0844
Email: groups@reliamedia.com

To reproduce any part of Relias Media newsletters for educational purposes, please contact:

The Copyright Clearance Center for permission
Email: info@copyright.com
Phone: (978) 750-8400