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*The objective of this Bulletin is to disseminate international news about health and medicine, developments, activities in medical and health research in DMR. The Bulletin is published monthly and delivered to township hospitals.*

*The Editorial Committee, therefore, invites contributions concerning information about research activities and findings in the field of medicine and health.*

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### Highlights on Useful Research Findings Applicable to Health

#### **Young Key Affected Population: Is there any Challenge in Seeking Reproductive Health Information and Care?**

Reducing HIV/RH related risks among young people is one of the priority interventions in Myanmar. Although health care services are being provided, unmet needs and barriers in seeking reproductive health are still present especially among young key affected population (YKAP). A cross-sectional study was conducted applying both quantitative and qualitative research methods with the aim of determining the health seeking behaviors regarding reproductive health (RH) and its challenges among young key affected population.

A total of 119 young men who have sex with men (YMSM) and 123 young female sex workers (YFSW) from Yangon and Mandalay included in the study. Mean age of YMSM and YFSW were  $20.9 \pm 2.4$  and  $21.7 \pm 2.2$  years. Regarding their education status, 72.3% and 86.2% of YMSM and YFSW were out of school whereas 8.4% of YMSM were university graduates. About 53% of YFSW are mobile and 70% of them migrate from one place to another within one year. Nearly 60% of YMSM are Ah-pwint as identified by themselves.

Based on the place of sex work, YFSW were identified as brothel-based 40%, entertainment-based (karaoke/restaurant/nightclub/massage) 32.5% and street-based 28.5%, respectively. Over 30% of YMSM and 49.3% of YFSW had experience of any STI symptom. Particularly, 17% of YMSM and 10% of YFSW had genital ulcer and 5% of both populations had genital warts.

Many of them sought health care at NGO clinics for STI treatment. Many YMSM (79%) and YFSW (56.9%) have ever visited drop-in-centre (DIC) from INGO whereas 37.2% of YMSM and 40% of YFSW have visited DIC within one to six months.

Over 13% of YMSM and 14.6% of YFSW mentioned that they have challenges in seeking health information on RH. Similarly, 11% of YMSM and 12% of YFSW have barriers in seeking STI/HIV information. Common reasons they mentioned during in-depth interviews were "reluctant to ask" and "not knowing relevant person to ask". Special attention in provision of health information should be paid to YKAP (10-15%) since there is a considerable proportion of YKAP with unmet need in seeking RH information and care.

**အိပ်ချ်အိုင်စွဲကူးစက်ရာတွင် အဓိကကျသော လူငယ်များ မျိုးဆက်ပွားကျန်းမာရေးနှင့်ပတ်သက်သော သတင်းအချက်အလက်များနှင့် စောင့်ရှောက်မှုများကိုရယူနိုင်ရန် အခက်အခဲများကိုလေ့လာခြင်း**

မြန်မာနိုင်ငံတွင် လူငယ်များအကြား အိပ်ချ်အိုင်စွဲ/မျိုးဆက်ပွား ကျန်းမာရေးနှင့် ပတ်သက်သော အန္တရာယ်များ လျော့ချရေးသည် ဦးစားပေးဆောင်ရွက်မှုရမည့် လုပ်ငန်းတစ်ခုအဖြစ် ပါဝင်ပါသည်။ ကျန်းမာရေးဝန်ဆောင်မှုများကို ပေးနေသော်လည်း မျိုးဆက်ပွား ကျန်းမာရေးနှင့်ပတ်သက်သော ကျန်းမာရေးစောင့်ရှောက်မှုများကို ရှာဖွေရာတွင်အခက်အခဲများရှိနေဆဲဖြစ်ပါသည် (အထူးသဖြင့်အိပ်ချ် အိုင်စွဲကူးစက်ရာ၌ အဓိကကျသောလူငယ်များ)။ အိပ်ချ်အိုင်စွဲကူး စက်ရာ၌ အဓိကကျသော လူငယ်များအကြား ကျန်းမာရေးစောင့် ရှောက်မှုများကို ရှာဖွေခြင်း အမှုအကျင့်များနှင့် ကျန်းမာရေးစောင့် ရှောက်မှုများကိုရှာဖွေရာတွင် တွေ့ကြုံရသော အခက်အခဲများကို လေ့လာရန်ရည်ရွယ်၍ ၎င်းသုတေသနကို ပြုလုပ်ခဲ့ပါသည်။ လိင်တူဆက်ဆံသူ အမျိုးသား ၁၁၉ ဦးနှင့် လိင်လုပ်သားအမျိုး သမီး ၁၂၃ ဦးပါဝင်ခဲ့ပါသည်။ လိင်တူဆက်ဆံသူ အမျိုးသားနှင့် လိင်လုပ်သားအမျိုးသမီးများ ပျမ်းမျှအသက်မှာ ၂၀.၉±၂.၄ နှင့် ၂၁.၇±၂.၂ အသီးသီးဖြစ်ပါသည်။ လိင်တူဆက်ဆံသူ အမျိုးသား ၇၂.၃ ရာခိုင်နှုန်းနှင့် လိင်လုပ်သားအမျိုးသမီးများ ၈၆.၂ ရာခိုင်နှုန်း သည် ကျောင်းထွက်ထားသူများဖြစ်ပြီး ၈.၄ ရာခိုင်နှုန်းသောလိင်တူ ဆက်ဆံသူ အမျိုးသားမှာ ဘွဲ့ရပညာတတ်များဖြစ်ပါသည်။ လိင်တူ ဆက်ဆံသူ အမျိုးသား ၆၀ ရာခိုင်နှုန်းမှာ အပွင့်များဖြစ်ကြပါသည်။

လိင်လုပ်သားအမျိုးသမီး ၄၀ ရာခိုင်နှုန်းမှာ မိမိခန်း၊ ၃၂.၅ ရာခိုင် နှုန်းမှာ (ကာရာအိုကော၊ စားသောက်ဆိုင်၊ နိုက်ကလပ်၊ အနိပ်ခန်း) တို့တွင်လုပ်ကိုင်ကြပြီး ၂၈.၅ ရာခိုင်နှုန်းမှာ လမ်းပေါ်တွင်အခြေပြု လုပ်ကိုင်ကြပါသည်။ လိင်တူဆက်ဆံသူ အမျိုးသား ၃၀ ရာခိုင်နှုန်း နှင့် လိင်လုပ်သားအမျိုးသမီး ၄၉.၃ ရာခိုင်နှုန်းတို့မှာ လိင်မှတစ် ဆင့် ကူးစက်တတ်သော ရောဂါလက္ခဏာများဖြစ်ပွားပါသည်။ လိင် တူဆက်ဆံသူ အမျိုးသား ၁၇ ရာခိုင်နှုန်းနှင့် လိင်လုပ်သားအမျိုး

သမီး ၁၀ ရာခိုင်နှုန်းတို့သည် လိင်အင်္ဂါတွင် အနာပေါက်ခြင်းနှင့် လိင်အင်္ဂါတွင် ကြွက်နို့ပေါက်ခြင်းများဖြစ်ပွားကြပါသည်။ ၎င်းလိင် မှတစ်ဆင့် ကူးစက်တတ်သော ရောဂါလက္ခဏာများကို ကုသရန် အစိုးရမဟုတ်သော အဖွဲ့အစည်းများ၏ ဆေးခန်းများသို့သွားကြ ပါသည်။ လိင်တူဆက်ဆံသူ အမျိုးသား ၇၉ ရာခိုင်နှုန်းနှင့် လိင် လုပ်သားအမျိုးသမီး ၅၆.၉ ရာခိုင်နှုန်းတို့သည် နားခိုရာနေရာများ သို့သွားရောက်ဖူးကြပြီး လိင်တူဆက်ဆံသူ အမျိုးသား ၃၇.၂ ရာခိုင် နှုန်းနှင့် လိင်လုပ်သားအမျိုးသမီး ၄၀ ရာခိုင်နှုန်းတို့သည် နားခိုရာ နေရာများသို့ တစ်လမှ ခြောက်လအတွင်းသွားရောက်ခဲ့ကြပါသည်။ လိင်တူဆက်ဆံသူ အမျိုးသား ၁၃ ရာခိုင်နှုန်း (၁၆/၁၁၉)နှင့် လိင် လုပ်သားအမျိုးသမီး ၁၄.၆ ရာခိုင်နှုန်း (၁၈/၁၂၃)တို့သည် မျိုးဆက် ပွားကျန်းမာရေးနှင့်ပတ်သက်သော သတင်းအချက်အလက်များရှာ ဖွေရာတွင် အခက်အခဲများရှိကြပါသည်။

ထိုနည်းတူစွာ လိင်တူဆက်ဆံသူ အမျိုးသား ၁၁ ရာခိုင်နှုန်းနှင့် လိင် လုပ်သားအမျိုးသမီး ၁၂ ရာခိုင်နှုန်းတို့သည် လိင်မှတစ်ဆင့်ကူးစက် တတ်သော ရောဂါ/ အိပ်ချ်အိုင်စွဲနှင့်ပတ်သက်သော သတင်းအချက် အလက်များရှာဖွေရာတွင် အခက်အခဲများရှိကြပါသည်။ အဓိကအ ကြောင်းအရင်းများမှာ “မေးရမည်ကိုဝန်လေးခြင်း” နှင့် “မည်သူ့ကို မေးရကောင်းမှန်းမသိခြင်း” များဖြစ်ကြပါသည်။ အိပ်ချ်အိုင်စွဲကူး စက်ရာ၌အဓိကကျသော လူငယ်များသည် မျိုးဆက်ပွားကျန်းမာရေး နှင့်ပတ်သက်သော သတင်းအချက်အလက်များနှင့် စောင့်ရှောက်မှု များကိုရယူနိုင်ရန် အခက်အခဲများရှိနေသောကြောင့် ကျန်းမာရေး သတင်းအချက်အလက်များကို သေချာစွာပေးသင့်ပါသည်။

*Reference: Kyaw Min Htut, Myo Myo Mon, Htun Nyunt Oo, et al. The 46<sup>th</sup> Myanmar Health Research Congress Programme & Abstracts: 165.(Third Prize for Poster Award)*

**Abstract of Research Paper Published or Read Abroad by DMR Scientists**

**Hypoglycemic Effect of Traditional Medicine Formulation (SNG-01) on Alloxan Induced Diabetic Mice**

Diabetes mellitus has become important disease causing high rate of morbidity and mortality. In this study, the objectives were to find out the acute toxicity and to determine hypoglycemic effect of different doses of Traditional Medicine Formulation (TMF SNG-01) on alloxan induced albino mice. Acute toxicity test was done by OECD guideline 423. Hyperglycemia was induced by intra-peritoneal administration of 150 mg/kg body weight of 5% alloxan monohydrate. Mice were divided into 5 groups consisting of 6 mice. Group 1 was given 10 ml/kg body weight of distilled water. Group 2 to 4 were treated with TMF SNG-01 at dose of 1 g/kg, 2 g/kg and 4 g/kg body weight, respectively. Group 5 was given 500 mg/kg body weight of Metformin. All groups were given orally for 14 days. Blood glucose levels were measured before administration and 1 hour interval for 4 consecutive hours. These test procedures were done on Day 1, 7 and 14. In acute toxicity test, all the

animals were alive and did not show any toxic sign and symptoms. Therefore, median lethal dose (LD50) was more than 5000 mg/kg body weight. On day 7, 4 g/kg and 2 g/kg body weight of TMF SNG-01 showed significant decrease in blood glucose level at 3 hours and 4 hours when compared with untreated diabetic group. On day 14, 4 g/kg body weight of TMF SNG-01 showed decrease in blood glucose level at 2 hours when compared with control group. In conclusion, TMF SNG-01 possessed significant hypoglycemic effect at the dose of 2 g/kg and 4 g/kg after 7 days of treatment on alloxan induced diabetic mice. Among 3 doses, TMF SNG-01 (4 g/kg) had the most effective hypoglycemic activity.

*Reference: Myo Nanda Aung, Khin Phyu Phyu, Khine Khine Lwin, et al. International Seminar & Exhibition on Phytopharmaceuticals: Emerging Challenges and Opportunities: JSS college of Pharmacy, Ootacamund, Nilgris Dt, Tamil Nadu, India. 11<sup>th</sup>-12<sup>th</sup> December, 2017. (Best Poster Award)*

### HPV Vaccine Information for Young Women

CDC now recommends 11 to 12 year olds get two doses of HPV vaccine—rather than the previously recommended three doses—to protect against cancers caused by HPV. The second dose should be given 6-12 months after the first dose. A vaccine is available to prevent the human papillomavirus (HPV) types that cause most cervical cancers as well as some cancers of the anus, vulva (area around the opening of the vagina), vagina, and oropharynx (back of throat including base of tongue and tonsils). The vaccine also prevents HPV types that cause most genital warts.

#### *Why is the HPV vaccine important?*

Genital HPV is a common virus that is passed from one person to another through direct skin-to-skin contact during sexual activity. Most sexually active people will get HPV at some time in their lives, though most will never even know it. HPV infection is most common in people in their late teens and early 20s. There are about 40 types of HPV that can infect the genital areas of men and women. Most HPV types cause no symptoms and go away on their own.

But some types can cause cervical cancer in women and other less common cancers — like cancers of the anus, penis, vagina, and vulva and oropharynx. Other types of HPV can cause warts in the genital areas of men and women, called genital warts. Genital warts are not life-threatening. But they can cause emotional stress and their treatment can be very uncomfortable.

#### *Which girls/women should receive HPV vaccination?*

HPV vaccination is recommended for 11 and 12 year-old girls. It is also recommended for girls and women age 13 through 26 years of age who have not yet been vaccinated or completed the vaccine series; HPV vaccine can also be given to girls beginning at age 9 years. CDC recommends 11 to 12 year olds get two doses of HPV vaccine to protect against cancers caused by HPV.

#### *Will sexually active females benefit from the vaccine?*

Ideally females should get the vaccine before they become sexually active and exposed to HPV. Females who are sexually active may also benefit from vaccination, but they may get less benefit. This is because they may have already been exposed to one or more of the HPV types targeted by the vaccines. However, few sexually active young women are infected with all HPV types prevented by the vaccines, so most young women could still get protection by getting vaccinated.

#### *Can pregnant women get the vaccine?*

The vaccine is not recommended for pregnant women. Studies show that the HPV vaccine does not cause problems for babies born to women who were vaccinated while pregnant, but more research is still needed. A pregnant woman should not get any doses of the HPV vaccine until her pregnancy is completed. Getting the HPV vaccine when pregnant is not a reason to consider ending a pregnancy. If a woman realizes that she got one or more shots of an HPV vaccine while pregnant, she should wait until after her pregnancy to finish any remaining HPV vaccine doses.

#### *Should girls and women be screened for cervical cancer before getting vaccinated?*

Girls and women do not need to get an HPV test or Pap test to find out if they should get the vaccine. However it is important that women continue to be screened for cervical cancer, even after getting all recommended shots of the HPV vaccine. This is because the vaccine does not protect against ALL types of cervical cancer.

#### *How effective is the HPV vaccine?*

The HPV vaccine targets the HPV types that most commonly cause cervical cancer and can cause some cancers of the vulva, vagina, anus, and oropharynx. It also protects against the HPV types that cause most genital warts. The HPV vaccine is highly effective in preventing the targeted HPV types, as well as the most common health problems caused by them. The vaccine is less effective in preventing HPV-related disease in young women who have already been exposed to one or more HPV types. That is because the vaccine prevents HPV before a person is exposed to it. The HPV vaccine does not treat existing HPV infections or HPV-associated diseases.

#### *How long does vaccine protection last?*

Research suggests that vaccine protection is long-lasting. Current studies have followed vaccinated individuals for ten years, and show that there is no evidence of weakened protection over time.

#### *What does the vaccine not protect against?*

The vaccine does not protect against all HPV types—so they will not prevent all cases of cervical cancer. Since some cervical cancers will not be prevented by the vaccine, it will be important for women to continue getting screened for cervical cancer. Also, the vaccine does not prevent other sexually transmitted

infections (STIs). So it will still be important for sexually active persons to lower their risk for other STIs.

#### *How safe is the HPV vaccine?*

The HPV vaccine has been licensed by the Food and Drug Administration (FDA). The CDC has approved this vaccine as safe and effective. The vaccine was studied in thousands of people around the world, and these studies showed no serious safety concerns. Side effects reported in these studies were mild, including pain where the shot was given, fever, dizziness, and nausea. Vaccine safety continues to be monitored by CDC and the FDA. Fainting, which can occur after any medical procedure, has also been noted after HPV vaccination. Fainting after any vaccination is more common in adolescents. Because fainting can cause falls and injuries, adolescents and adults should be seated or lying down during HPV vaccination. Sitting or lying down for about 15 minutes after a vaccination can help prevent fainting and injuries.

#### *Why is HPV vaccination only recommended for women through age 26?*

HPV vaccination is not currently recommended for women over age 26 years. Clinical trials showed that, overall, HPV vaccination offered women limited or no protection against HPV-related diseases. For women over age 26 years, the best way to prevent cervical cancer is to get routine cervical cancer screening, as recommended.

#### *What about vaccinating boys and men?*

HPV vaccine is licensed for use in boys and men. It has been found to be safe and effective for males 9-26 years. ACIP recommends routine vaccination of boys aged 11 or 12 years with with a series of doses. The vaccination series can be started beginning at age 9 years. Vaccination is recommended for males aged 13 through 21 years who have not already been vaccinated or who have not received all recommended doses. The vaccine is most effective when given at younger ages; males aged 22 through 26 years may be

vaccinated. CDC recommends 11 to 12 year olds get two doses of HPV vaccine to protect against cancers caused by HPV.

#### *What vaccinated girls/women need to know: will girls/women who have been vaccinated still need cervical cancer screening?*

Yes, vaccinated women will still need regular cervical cancer screening because the vaccine protects against most but not all HPV types that cause cervical cancer. Also, women who got the vaccine after becoming sexually active may not get the full benefit of the vaccine if they had already been exposed to HPV.

#### *Are there other ways to prevent cervical cancer?*

Regular cervical cancer screening (Pap and HPV tests) and follow-up can prevent most cases of cervical cancer. The Pap test can detect cell changes in the cervix before they turn into cancer. The HPV test looks for the virus that can cause these cell changes. Screening can detect most, but not all, cervical cancers at an early, treatable stage.

#### *Are there other ways to prevent HPV?*

For those who are sexually active, condoms may lower the chances of getting HPV, if used with every sex act, from start to finish. Condoms may also lower the risk of developing HPV-related diseases (genital warts and cervical cancer). But HPV can infect areas that are not covered by a condom—so condoms may not fully protect against HPV. People can also lower their chances of getting HPV by being in a faithful relationship with one partner; limiting their number of sex partners; and choosing a partner who has had no or few prior sex partners. But even people with only one lifetime sex partner can get HPV. And it may not be possible to determine if a partner who has been sexually active in the past is currently infected. That's why the only sure way to prevent HPV is to avoid all sexual activity.

Sources: <https://www.cdc.gov>.

Contributed by Clinical Research Division

## **New Understanding of Hep B Virus may Lead to New Drugs**

The discovery, which was published April 27 in the journal *eLife*, reveals previously unknown details about the capsid, or protein shell, that encloses the virus' genetic blueprint. Scientists believe that the capsid, which drives the delivery of that blueprint to infect a host cell, is a key target in developing drugs to treat hepatitis B. "With hepatitis B, the structure of the capsid has been known for years, but we wanted to study its motion and its influence on its surroundings," said Jodi A. Hadden, an independent postdoctoral researcher in UD's Department of Chemistry and Biochemistry and the lead author of the new paper. Jodi Hadden and Juan Perilla have

used computer simulations to learn more about the capsid, or protein shell, that encloses the genetic blueprint of the hepatitis B virus. An image of the capsid shows how it is made up of 240 proteins. Hadden and the research team used supercomputing resources to perform what are known as all-atom molecular dynamics simulations. Molecular dynamics simulations allow researchers to study the way molecules move in order to learn how they carry out their functions in nature. Computer simulations are the only method that can reveal the motion of molecular systems down to the atomic level and are sometimes referred to as the "computational microscope." In the

case of the simulations of the hepatitis B virus, the researchers found that the capsid is not rigid as previously thought, but is highly flexible. They also learned that it can distort into an asymmetric shape, which might allow it to squeeze through an opening into the nucleus of a cell the virus is infecting. "We think that the capsid might need that ability to distort in order to correctly package its genetic blueprint and get it into the nucleus to generate new copies of the virus during the infection process," Hadden said. Previous research has used experimental microscopes to study the capsid, which is made up of 240 proteins, but that work hasn't yielded high-resolution images of the complex structure, said Juan R. Perilla, assistant professor of chemistry and biochemistry and a co-author of the new paper. "It seems clear that the flexibility of the [hepatitis B] capsid is a limiting factor" in the effectiveness of microscopy, he said. By contrast, the simulations have been able to reveal a more complete picture of the capsid and how it moves, distorts and interacts with its environment, Hadden said. Each simulation involves six million atoms. "We

have all the details down to the atomic level," she said. "You need that to develop a complete understanding of the molecule and to study drug interactions."

The researchers also found that small triangular openings, or pores, in the capsid surface are likely the location where its protein "tails" poke through, sending a signal that is essential to the infection process. "We know that the capsid tails have to be exposed to the surface at some time for the capsid to travel to the cell nucleus," Hadden said. "It's like hailing a taxi." All the findings have the potential to lead to drug treatments, she said. For example, if the capsid could be made rigid and unable to distort or if a way could be found to block the triangular pores in its surface, the infection process might be halted.

There's an effective vaccine to prevent hepatitis B, but no cure once a person is infected. The virus causes severe liver disease, which can lead to potentially fatal conditions such as cirrhosis and liver cancer.

Source: <https://www.sciencedaily.com>.

Contributed by Bacteriology Research Division

### **More Protein after Weight Loss may Reduce Fatty Liver Disease**

NAFLD -- sometimes referred to as a "fatty liver"-- occurs when more than 5 percent of the liver's total weight is made up of fatty tissue. Excessive fat in the liver can lead to scarring, which may increase the risk of liver cancer or liver failure. People with NAFLD are more likely to develop type 2 diabetes, and people with type 2 diabetes are more likely to develop NAFLD. In fact an estimated 70 percent of people with type 2 diabetes also have a fatty liver. Obesity is also a major risk factor for NAFLD.

Previous studies have found that short-term protein supplementation helps reduce the fat content in the liver, but there have been few studies on the long-term effects of protein on NAFLD. Researcher conducted a two-year study to determine the long-term impact of dietary protein on a fatty liver after weight loss. This study was part of the PREVIEW study, which aims to identify the most efficient lifestyle pattern for the prevention of type 2 diabetes in a population of pre-diabetic overweight or obese individuals. Twenty-five adult volunteers -- 15 of whom had been previously diagnosed with NAFLD -- participated in a low-calorie diet for eight weeks to lose up to 8 percent of their

body weight. After weight loss, the volunteers were directed to maintain their weight for two years and to follow either a moderate- or high-protein diet averaging from 0.8 to 1 grams of protein per kilogram (2.2 pounds) of body weight. The research team took blood and urine samples and performed body scans to assess liver fat content and the amount of protein eliminated from the volunteer's bodies at three intervals: the start of the weight maintenance phase and again six months and then two years later.

After two years maintaining their weight loss, the increase in dietary protein was associated with reduced liver fat content in the volunteers. In addition, more than half of the participants who were previously diagnosed with NAFLD no longer had a fatty liver.

These findings stress the clinical implications and potential benefits of increased protein intake after weight loss for people with NAFLD at risk to develop diabetes.

Sources: [www.Sciencedaily.com](http://www.Sciencedaily.com).

Contributed by Scientific Groups on Nutrition and Growth, Fitness Research

### **Novel Blood-based Marker may Help Predict Kidney Cancer Years before Clinical Diagnosis**

A critical biomarker of kidney disease may help predict clear cell kidney cancer-the most years before clinical diagnosis. Kidney-injury-molecule-1 (KIM-1) can be detected in the urine and blood and is generally present at low levels in healthy individuals. Prior research by leaders at Brigham and Women's Hospital has shown that KIM-1 is an important and highly predictive marker for kidney injury. In a new study

published in *Clinical Cancer Research*, BWH investigators along with colleagues from Beth-Israel Deaconess Medical Center explore whether a blood test can detect higher concentrations of KIM-1 in patients who will go on to develop kidney cancer up to five years later. Their results show that KIM-1 substantially helped distinguish between those who went on to develop kidney cancer from those who did not early

detection of kidney cancer can be lifesaving. We can cure kidney cancer when we detect it at an early stage, but patients with advanced kidney cancer have a very high death rate, this writer a research faculty member in the BWH Renal Division. However, kidney cancer is asymptomatic and many patients present with advanced kidney cancer at the time of diagnosis. Our results suggest that with further refinement KIM-1 has the potential to identify patients with early curable kidney cancer. They measured KIM-1 concentrations in samples from patients enrolled in the European Prospective Investigation into Cancer and nutrition (EPIC). The team compared KIM-1 levels from 190 participants who went on to develop RCC within the next five years to 190 matched participants (same age, body mass index, smoking status, etc.) who remained healthy. In samples with detectable levels of KIM-1, the average concentration was double in those who would develop kidney cancer. The team reported that adding KIM-1

to a model for predicting kidney cancer risk approximately doubled the accuracy of that model. KIM-1 was substantially more sensitive for kidney cancer detection than prostate specific antigen is for prostate cancer. However, given how much rarer RCC is, the researchers noted that KIM-1 should be measured along with another kidney disease specific markers to be useful for early detection in the general population we envision that KIM-1 will be useful in settings where the risk of kidney cancer is higher, such as patients undergoing abdominal CT scanning, where KIM-1 could be used to stratify risk of RCC, the authors wrote. This will be particularly important given the rise of routine CT scans and the strong association between number of CT scans and number of nephrectomies performed at the regional level in the U.S., indicating a substantial burden of over diagnosis.

Source: <https://www.brighamandwomens.org>.  
Contributed by Blood Programming Division

**Recent Arrivals at Central Biomedical Library (<http://www.dmrlibrary.org>)**

1. ACP Annals of Coloproctology. 2018 June; 34(3).
2. Cibas, Edmund S., Ducatman, Barbara S. Cytology: Diagnostic Principles and Clinical Correlates. 4<sup>th</sup> ed. Philadelphia: Elsevier, 2014.
3. Circulation Journal. 2018 September; 82(9).
4. Mental Health ATLAS 2017. Geneva: WHO, 2018.
5. Ministry of Social Welfare, Relief and Resettlement – Newsletter. 2018 July.
6. Murray, Patrick R., Rosenthal, Ken S. & Pfaller, Michael A. Medical Microbiology. 8<sup>th</sup> ed. Philadelphia: Elsevier, 2016.

**(၄၇) ကြိမ်မြောက် မြန်မာနိုင်ငံကျန်းမာရေးဆိုင်ရာသုတေသနညီလာခံ  
ဆေးသုတေသနဦးစီးဌာန**

ကျန်းမာရေးနှင့်အားကစားဝန်ကြီးဌာနမှ ကြီးမှူးကျင်းပသည့် (၄၇) ကြိမ်မြောက် မြန်မာနိုင်ငံကျန်းမာရေးဆိုင်ရာသုတေသနညီလာခံကို ၂၀၁၉ ခုနှစ် ဇန်နဝါရီလ (၇) ရက်မှ (၁၁) ရက်အထိ ဆေးသုတေသနဦးစီးဌာန၊ အမှတ်(၅)၊ ဇီဝကလမ်း၊ ဒဂုံမြို့နယ်၊ ရန်ကုန်မြို့တွင် ကျင်းပရန် စီစဉ်ထားပါသည်။

ညီလာခံတွင် ကျန်းမာရေးသုတေသနစာတမ်းဖတ်ပွဲ၊ ကျန်းမာရေးသုတေသနပိုစတာပြပွဲနှင့် ကျန်းမာရေးပညာရပ်ဆိုင်ရာ နှီးနှောဖလှယ်ပွဲနှင့် ဟောပြောပွဲများပါဝင်မည်ဖြစ်ရာ စိတ်ပါဝင်စားသူ ပြည်တွင်းပြည်ပမှ ပညာရှင်များအား ဖိတ်ခေါ်အပ်ပါသည်။ မှတ်ပုံတင်ခြင်းကို ညီလာခံ Website (<https://www.myanmarhrc.com>) တွင် ကြိုတင်ပြုလုပ်နိုင်ပါသည်။

ပြည်တွင်း၊ ပြည်ပ NGO အဖွဲ့အစည်းများ၊ ဆေးဝါးကုမ္ပဏီများ၊ ဓာတ်ခွဲခန်းကိရိယာ၊ ဓာတုပစ္စည်းတင်သွင်းသည့်ကုမ္ပဏီများနှင့် ပြည်တွင်း၊ ပြည်ပပုဂ္ဂလိကဓာတ်ခွဲခန်းများ၊ ဆေးရုံများ၊ ဆေးခန်းများအားလည်း ဆေးပစ္စည်းကိရိယာပြခန်းများ၊ ပိုစတာပြခန်းများနှင့် ပညာရပ်ဆိုင်ရာဟောပြောပွဲများတွင် ပါဝင်ဆင်နွှဲနိုင်ပါရန် ဖိတ်ခေါ်ပါသည်။ ဆေးပစ္စည်းကိရိယာပြခန်းများ၊ ပိုစတာပြခန်းများအတွက် Email: [info@dmr.gov.mm](mailto:info@dmr.gov.mm) သို့ဆက်သွယ်နိုင်ပါသည်။

(၄၇) ကြိမ်မြောက်မြန်မာနိုင်ငံကျန်းမာရေးဆိုင်ရာသုတေသနညီလာခံကျင်းပရေးလုပ်ငန်းကော်မတီ  
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