Department of Medical Research

Bulletin

Vol. 30, No. 11 **Published Since 1986** **July, 2018**

CONTENTS

Highlights on Useful Research Findings Applicable to Health 1
- Labor, included

Abstract of Research Paper Published or Read Abroad by DMR Scientists 2
- Rotavirus vaccination

News about Medicine & Health 3
- How biotechnology could offer hope for snakebite victims
- Study in early stage breast cancer shows that even small tumors can be aggressive
- Promising new drug for hepb tested
- HPV vaccine also prevents uncommon childhood respiratory disease
- Cure for the common cold is a step closer
- Feeling depressed? Smartphone addiction could be to blame

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.

Please address all your correspondence to:

Library & Publication Division
Department of Medical Research
Ministry of Health and Sports

No. 5, Ziwaka Road
Dagon Township, Yangon 11191
Email: publicationdmr@gmail.com
☎375447, 375457, 375459 Ext:123

Published by the Editorial Committee
Department of Medical Research

Restricted for Internal Use Only

Highlights on Useful Research Findings Applicable to Health

A Comparison of Efficacy and Safety of Sublingual Misoprostol with Intra-vaginal Misoprostol for Induction of Labour at Term

This study was a hospital-based comparative study which was carried out in Central Women's Hospital, Yangon from 1st January to 31st December, 2015.

The aim of this study was to compare the efficacy and safety of sublingual misoprostol and intra-vaginal misoprostol for induction of labour at term. Women with indications for labour induction were assigned randomly to receive misoprostol sublingually or intra-vaginally.

Women in both groups received misoprostol 25 µg at 4 hourly intervals until the onset of labour or a maximum of 6 doses. One hundred and thirty-two pregnant women were enrolled. Sixty-six women received misoprostol sublingually and another sixty-six women received intra-vaginally.

There were no differences in the patient's background characteristics. Mean frequency of misoprostol required for labour induction was 2.09±1.28 doses in sublingual group and 1.56±0.86 doses in intra-vaginal group (p=0.006).

Mean induction-labour interval was 7.971 hours in sublingual group and 7.280 hours in intra-vaginal group. The difference was statistically significant (p=0.033). Mean induction-delivery time of sublingual group was 12.643±6.473 hours and of the intra-vaginal group was 13.234±5.098 hours (p=0.425).

Among the studied patients, 66.7% in sublingual group and 72.7% of intra-vaginal group had vaginal delivery. The caesarean section rate in sublingual group was 33.3% and intra-vaginal group was 27.3% (p=0.449).

The difference was not significant statistically. The passage of fetal meconium, Apgar score at 5 minutes, necessity for neonatal resuscitation and maternal complications were not different statistically in the two groups.

In conclusion, vaginal administration of misoprostol (25 µg) required less doses of misoprostol for successful labour induction and shorter induction-labour interval than the same dose of sublingual administration.

မီဆိုပရိုစတောဆေးအား လျှာအောက်ထားစေခြင်းသည် မိန်းမကိုယ်အတွင်းထည့်ခြင်းကဲ့သို့ ကိုယ်ဝန်ဆောင်မိခင်အား ကလေးမွေးဖွားရန်လိုအပ်သော သားအိမ်ခေါင်းမှည့်ခြင်းဖြစ်စဉ် အကျိုးသက်ရောက်မှုရှိပြီး မိခင်နှင့်ကလေးအတွက် လုံခြုံစိတ်ချရမှုကို နှိုင်းယှဉ်သည့်သုတေသန

ဤစာတမ်းသည် ၂၀၁၅ ဇန်နဝါရီလ ၁ ရက်မှ ဒီဇင်ဘာလ ၃၁ ရက် အထိ ဗဟိုအမျိုးသမီးဆေးရုံကြီး၊ ရန်ကုန်မြို့တွင် ပြုလုပ်ခဲ့သော စာတမ်းဖြစ်ပါသည်။ ဤစာတမ်း၏ ရည်ရွယ်ချက်မှာ မီဆိုပရိုစတောဆေးပြားအား လျှာအောက်ထားခြင်းသည် မိန်းမကိုယ်အတွင်းထည့်ခြင်းကဲ့သို့ ကိုယ်ဝန်ဆောင်မိခင်အား ကလေးမွေးဖွားရန်လိုအပ်သော သားအိမ်ခေါင်းမှည့်ခြင်းဖြစ်စဉ်အပေါ်အကျိုးသက်ရောက်မှုရှိပြီး မိခင်နှင့်ကလေးအတွက် လုံခြုံစိတ်ချရမှုကို နှိုင်းယှဉ်ခြင်းဖြင့် အသုံးဝင်သောအချက်အလက်များ ရရှိနိုင်ရန် ဖြစ်ပါသည်။ ဤစာတမ်းတွင် အကျိုးဝင်သော ကိုယ်ဝန်ဆောင်မိခင်များအား မီဆိုပရိုစတောဆေးပြားကို လျှာအောက်တွင် ထည့်စေခြင်းနှင့် မိန်းမကိုယ်အတွင်းထည့်စေခြင်းတို့အနက် မည်သည့်အုပ်စုတွင် ကျရောက်မည်ကို ကွန်ပျူတာဖြင့်မဲခွဲဆုံးဖြတ်ခဲ့ပါသည်။ အုပ်စုနှစ်ခုစလုံးမှ ကိုယ်ဝန်ဆောင်များသည် မီဆိုပရိုစတောဆေးပြား ၂၅ မိုက်ကရိုဂရမ်ကို ဗိုက်နာပြီးသားအိမ်ပွင့်သည်အထိ လေးနာရီခြား၍ အများဆုံးခြောက်ကြိမ်အထိ ထည့်စေခဲ့ပါသည်။ အုပ်စုတစ်စုတွင် ကိုယ်ဝန်ဆောင်မိခင် ၆၆ ဦးစီဖြင့် စုစုပေါင်းမိခင် ၁၃၂ ဦးအားသုတေသနတွင်ပါဝင်စေခဲ့ပါသည်။ ကိုယ်ဝန်ဆောင်မိခင်များ၏ အသက်၊ အရပ်၊ ကိုယ်အလေးချိန်နှင့် ကိုယ်ဝန်ဆောင်သည့်အကြိမ် စသည်တို့သည် အုပ်စုနှစ်ခုစလုံးတွင် ယေဘုယျအားဖြင့် ကွဲပြားခြားနားခြင်း မရှိခဲ့ကြပါ။ သားအိမ်ခေါင်းမှည့်စေရန် ပျမ်းမျှလိုအပ်သော ဆေးအကြိမ်ပမာဏမှာလျှာအောက်ထည့်စေသောအုပ်စုတွင် ၂.၀၉±၁.၂၈ ကြိမ်ဖြစ်ပြီး မိန်းမကိုယ်တွင်းထည့်စေသော အုပ်စုတွင် ၁.၅၆±၀.၈၆ ကြိမ်ဖြစ်ပါသည်။ ဆေးစထည့်သည့်အချိန်မှ ဗိုက်နာလာပြီး သားအိမ်ပွင့်သည့် အချိန်ထိပျမ်းမျှကြာချိန်မှာ လျှာအောက်ထည့်စေသော အုပ်စုတွင် ၇.၉၇၁ နာရီနှင့် မိန်းမကိုယ်တွင်းထည့်စေသော အုပ်စုတွင် ၇.၂၈၀ နာရီသာကြာသည်ကိုတွေ့ရှိရပြီး ကြာချိန် ပိုတိုသည်ကိုတွေ့ရှိရပါသည်။ (p=၀.၀၃၃)။ ဆေးစထည့်သည့်အချိန်မှ ကလေးမွေးဖွားသည့်အချိန်အထိပျမ်းမျှကြာချိန်မှာ လျှာအောက်ထည့်စေသော အုပ်စုတွင် ၁၂.၆၄၃±၆.၄၇၃ နာရီကြာပြီးမိန်းမကိုယ်တွင်းထည့်စေသောအုပ်စုတွင် ၁၃.၂၃၄±၅.၀၉၈ နာရီကြာမြင့်ပါသည်။ လျှာအောက်ထည့်စေသော အုပ်စုအတွင်းမှ ၆၆.၇ ရာခိုင်နှုန်းသည် ရိုးရိုးမွေးဖွားနိုင်ခဲ့ပြီး မိန်းမကိုယ်တွင်းထည့်စေသော အုပ်စုမှ ၇၂.၇ ရာခိုင်နှုန်းသည်ရိုးရိုးမွေးဖွားနိုင်ခဲ့ပါသည်။ လျှာအောက်ထည့်စေသော အုပ်စုမှ ၃၃.၃ ရာခိုင်နှုန်းနှင့် မိန်းမကိုယ်တွင်းထည့်စေသော အုပ်စုမှ ၂၇.၃ ရာခိုင်နှုန်းသည် အရေးပေါ်ခွဲစိတ် မွေးဖွားခဲ့ရပါသည်။

ရေမွှာရည်နောက်ခြင်း ရှိ/ မရှိ၊ မွေးဖွားပြီး ၅ မိနစ်တွင်ရှိသော ကလေး၏ Apgar score မွေးကင်းစကလေးအား အသက်ကယ်ရန် လိုအပ်မှု ရှိ/ မရှိနှင့် မိခင်တွင် နောက်ဆက်တွဲဆိုးကျိုးများရှိ/ မရှိတို့ကို နှိုင်းယှဉ်လေ့လာရာ အုပ်စုနှစ်စုအတွင်း ထူးထူးခြားခြားကွဲပြားခြားနားခြင်းမရှိခဲ့ပါ။ အချုပ်ဆိုရသော်ကလေးမွေးဖွားရန်လိုအပ်သောသားအိမ်ခေါင်းမှည့်စေရန် မီဆိုပရိုစတောဆေးပြား ၂၅ မိုက်ကရိုဂရမ်အား မိန်းမကိုယ်အတွင်း ထည့်စေခြင်းသည် လျှာအောက်တွင် ထည့်စေခြင်းထက် ထည့်ရသော ဆေးအကြိမ်ရေပိုနည်းပြီး ဆေးစထည့်သည့်အချိန်မှစ၍ ဗိုက်နာပြီး သားအိမ်ပွင့်လာစေသည့် အချိန်မှာလည်း ပိုတိုသည်ကို တွေ့ရှိရပါသည်။

Reference: Zar Chi Min, Phyu Phyu Thein, San San Myint. The 46th Myanmar Health Research Congress Programme & Abstracts: 68. (Second Prize for Young Researcher Award & Applied Research)

Abstract of Research Paper Published or Read Abroad by DMR Scientists

Surveillance of Rotavirus Gastroenteritis (2015-2017); Vital Information for Pre-and Post-rotavirus Vaccination in Myanmar

Hospital-based, prospective, active surveillance for rotavirus gastroenteritis (RVGE) was conducted to determine the proportion of rotavirus infection among acute gastroenteritis (AGE) cases and to identify rotavirus strains there by providing information on epidemiology and strain diversity of RVGE. Stool samples were collected from children <5 years old admitted to Yangon Children's Hospital (YCH) for AGE during January 2015 to September 2017, screened for rotavirus antigen by ELISA (ProSpecT™ Rotavirus) and genotyped by reverse transcription polymerase chain reaction. Overall, 1167/2393 (49%) of samples tested positive for rotavirus, ranging from 46-53% each year. The most affected was the 6-23 months age group, 956/1167 (81.9%) followed by 0-5 months 106/1860 (9.1 %) and 24-59 months 105/1167 (9.0%). RVGE occurred in a seasonal cycle with peak detection in the cold and dry months (November to February). As compared with non-RVGE, RVGE cases had significant higher percentage of vomiting (84.5% *vs*. 73%; p<0.05), fever (80.1% *vs*. 71.8%; p<0.05) and severe clinical scoring (79.3% *vs.* 67.6%; p<0.05). Genotyping revealed that G9P[8] was predominant in the year 2015 (53.3%) and 2016 (30.9%), however, it was replaced in 2017 by G3P[8] (58.2%). Because of the high morbidity of RVGE, rotavirus vaccine is planning to introduce in Myanmar in the future, information from this surveillance not only highlights facts for consideration of target population, issues of dose scheduling and selection of appropriate vaccines in pre-vaccination era but also provide vital baseline data for post-vaccination monitoring of vaccine impact and effectiveness.

Reference: *Theingi Win Myat, Hlaing Myat Thu, Ye Myint Kyaw, et al*. Paper presented at the 64th Myanmar Medical Conference, Yangon. 20th-24th January, 2018. (First Prize for Best Paper Award)

News about Medicine & Health

How Biotechnology could Offer Hope for Snakebite Victims

Snakebite is a major public health burden for low-income countries in tropical parts of the world.

There are around 5 million bites and 150,000 deaths every year. And about 400,000 victims become permanently disabled annually.

In Africa, the most notorious of snake species is the black mamba (*Dendroaspis polylepis*). It is feared for its potent rapid-acting venom and a bite from this species has an almost 100% fatality rate if left untreated.

Other venomous African snake species that pose a danger to humans include other mambas, cobras, puff adders, boomslangs, and a range of vipers.

Treatment against snakebite venom is currently limited to antiserum derived from animals. Current antivenom production involves immunising animals, like horses or sheep, with venom milked from snakes and then isolating antibodies from the serum.

The process is expensive and labour intensive. A combination of these factors and a difficult market environment has some led commercial producers to withdraw.

As a result, current stocks of functional antivenom will soon expire and might become a neglected health crisis. But there is hope on the horizon.

Innovations in biotechnology being used to produce pharmaceuticals for other treatments could also be applied to producing antivenoms. These would be made in laboratory conditions rather than extracted from animals.

Innovations in biotechnology can make antivenoms more cost-effective and easier to produce. They can also be made more effective against snakebites.

Lower manufacturing costs would make it profitable for pharmaceutical companies to bring low cost antivenoms to the market.

It could even provide a financial incentive for antivenom manufacturers to distribute antivenoms to rural parts of the tropics.

One established method that could be adapted is the use of DNA immunisation techniques. This would do away with laborious venom extractions.

This technique would involve immunising horses with toxin-encoding DNA, inducing immunisation (similar to the effect that venom itself provides). This technique has been investigated in various animal models and may enable venom-independent antivenom manufacture in the future.

But we are following a different avenue. We are pursuing the replacement of the active components (antibodies) in the animal-derived antivenom with recombinant human versions – antivenoms produced by cell cultivation in biotechnological production systems.

This method, producing pharmaceutical products through cell cultivation in fermentation tanks, has been developed and perfected over the last 30 years.

It's been used to produce a range of pharmaceutical products like blood factors and human hormones such as insulin.

Future recombinant antivenoms could be based on mixtures of human antibodies. These antivenoms would be more compatible with the human immune system, limiting the incidence of adverse reactions.

The concept has seen success in ZMapp, a medication used to fight Ebola and therapies involving oncology based antibody mixtures.

A recombinant antivenom would also be more effective. This is because current antivenoms contain a large fraction of therapeutically irrelevant antibodies. These are generated by animals' immune systems to fight a range of bacteria and viruses.

A recombinant antivenom, based on a mixture of human antibodies, would be designed in a way that the antibodies would be specifically selected to target the most relevant toxins in snake venom. Therapeutically irrelevant antibodies not targeting snake toxins would be absent.

Recombinant antivenoms are still under development. They are unlikely to be on the market for about a decade.

More focus and resources are needed to accelerate the discovery and testing of toxin-targeting antibodies of human origin.

We hope our efforts will help this process and shorten the time in which more effective – and less expensive – antivenoms reach clinics.

Source: http://theconversation.com/how-biotechnology-could-offer-hope-for-snakebite-victims-68244 search on 10th May, 2018.

Contributed by Scientific Group on Snakebite Research

Study in Early Stage Breast Cancer Shows that Even Small Tumors can be Aggressive

Even small tumors can be aggressive, in response to a research in sufferers with early stage breast cancer that will be introduced on the ESMO 2017 Congress in Madrid. Researchers discovered that almost one in 4 small tumors has been aggressive and sufferers benefited from chemotherapy. Aggressive tumors might be recognized by a 70-gene signature. The research included 6,693 ladies with early stage breast cancer (lymph node destructive or 1-Three lymph nodes constructive). They confirmed that round 46% of sufferers who have been at excessive medical danger for recurrence, outlined utilizing Adjuvant! These ladies had a low genomic danger for recurrence based on MammaPrint, a genomic signature that assists in predicting medical outcomes in ladies with early stage breast cancer.

The sub evaluation introduced at ESMO 2017 included the 826 sufferers with a main tumor measurement of lower than1cm. Clinical and genomic dangers have been assessed and 196 sufferers (24%) have been discovered to be at medical low danger and genomic excessive danger. These sufferers have been randomized to obtain, or not obtain, chemotherapy.

The researchers discovered that at 5 years, only a few sufferers who acquired chemotherapy skilled illness relapses, displaying excessive charges of distant metastases-free survival, disease-free survival and general survival, which confirms that they derived profit from chemotherapy. Based on clinical criteria alone, these tumors are not aggressive and therefore patients do not need chemotherapy.

But 24% of small tumors had an aggressive biology showing that not all small tumors are the same. Tumor biology needs to be taken into account when deciding adjuvant treatments in this patient population. One cannot forget the patient's age, performance status, comorbidities and preferences during the discussion.

Source: Science Daily, 4 September 2017.
Contributed by Scientific Group on Cancer Research

Promising New Drug for Hep B Tested

The World Health Organization characterizes hepatitis B as a major global health problem. An estimated 250 to 400 million people are chronically infected with the virus. More than 800,000 people a year die from complications of cirrhosis of the liver and liver cancer. A vaccine that is 95% effective in preventing hepatitis B infections has been available since 1982, but there is currently no cure for the millions already chronically infected.

The novel therapy by Arrowhead Pharmaceuticals uses a mechanism called RNA interference to reduce the surface antigens created by chronic HBV infections. Surface antigens (called HBsAg) are small molecules involved in virus entry into liver cells. In chronic infection, they may prevent the immune response from clearing the virus. For example, a high level of HBsAg can lead to a greater risk of long-term, chronic infection with hepatitis B and life-threatening complications like cirrhosis and liver cancer. In this setting, reducing HBsAg by RNA interference will have beneficial effects. Much of the groundbreaking work lies in the technology Arrowhead developed for delivering this small interfering RNA precisely to the liver. Experiments involving chimpanzees at the SNPRC from 2013-2015 provided the proof that this technology works and is safe for humans, laying the groundwork for the patient clinical trials that have followed. Trials of targeted HBV intervention in non-human primates showed the experimental drug was safe and effective enough to be tested in people.

The Director of the SNPRC, Robert Lanford, Ph.D., explained this novel treatment -- in combination with conventional HBV therapy -- could empower the immune system to kill the HBV-infected cells and potentially cure people of the disease. "We now have a drug that can knock down hepatitis B surface antigen and determine whether or not we can actually cure people with that," Dr. Lanford said. The drug is delivered by subcutaneous (under the skin) injection. Scientists designed a molecule that delivers the medicine directly to the liver where it binds to a receptor. Then, another molecule that's derived from bee venom, helps break through membranes in the liver cells to deliver the medicine directly into the cytoplasm of the cells where it takes effect. The siRNA interferes with the expression of the HBV messenger RNA that produces the surface antigen.

"The idea is if you could knock the levels of surface antigens down far enough, the immune system would kick back in," Dr. Lanford said. "This technology is pretty specific for the liver right now, but there are a lot of problems in the liver that you can fix with this besides hepatitis B." This kind of targeted therapy may someday be used to develop drugs for other chronic liver conditions like a genetic disorder called Alpha-1 antitrypsin deficiency, caused by mutated inherited genes, which can cause cancer. Although the SNPRC no longer uses chimpanzees for biomedical research, studies conducted with these non-human primates over decades continue to yield significant scientific information that will advance human health.

Source: www.sciencedaily.com.
Contributed by Scientific Group on Liver & Gastroenterology Research

HPV Vaccine also Prevents Uncommon Childhood Respiratory Disease

The vaccine that protects against cancer-causing types of human papillomavirus (HPV) also prevents an uncommon but incurable childhood respiratory disease, according to a new study published in The Journal of Infectious Diseases. The findings suggest that the chronic and difficult-to-treat condition, recurrent respiratory papillomatosis, is disappearing in Australian children as a result of the nation's highly successful HPV vaccination program. "This is a world-first finding of evidence that the HPV vaccine has actually prevented recurrent respiratory papillomatosis cases," said study author Julia M.L. Brotherton, MD, PhD, MPH, of the Victorian Cytology Service in Melbourne, Australia.

The condition is thought to occur in children when HPV (specifically, HPV type 6 or 11) is spread from mother to child around the time of birth. In some children, the virus can cause wart-like, non-cancerous growths called papillomas to develop in the respiratory tract, eventually making it difficult to breathe. The condition can be life-threatening, and repeated surgeries are usually required to keep the airway clear. Medical costs related to the disease in children total $123 million annually in the U.S., where approximately 800 children develop the condition each year, according to previously published estimates.

In the new study, Australian researchers report the initial results from a nationwide surveillance program created to monitor the disease, building on an existing program that monitors rare pediatric diseases using reports from clinicians. Seven cases of juvenile-onset recurrent respiratory papillomatosis were reported in 2012, the surveillance program's first full year. The number of new cases reported annually declined over the next five years. Clinicians reported just one case in the entire country in 2016.

None of the mothers of the children who were diagnosed with the disease from 2012-2016 had been vaccinated against HPV prior to their pregnancy. Australia's publicly funded HPV immunization programm provides the quadrivalent vaccine, which protects against four HPV types (types 6, 11, 16, and 18), through school-based programs. Nationwide, 86 percent of girls and 79 percent of boys 14-15 years of age have received the first dose of the vaccine, according to current estimates.

Although rates have improved in the U.S., only 60 percent of 13-to-17-years-old had received one or more doses of the HPV vaccine in 2016, the Centers for Disease Control and Prevention (CDC) recently reported. CDC currently recommends two doses of the vaccine for teens younger than 15 and three doses for those who start the vaccine series at ages 15 through 26.

Source: https://www.sciencedaily.com.
Contributed by Technology Development Division

Cure for the Common Cold is a Step Closer

A tiny molecule found in the immune systems of humans and animals could be used to develop a cure for the common cold, new research suggests. Scientists have uncovered exciting new possibilities for treatments based on 'antimicrobial peptides' that occur naturally in humans and animals, and increase in response to infection.

A five-year study into peptides from different mammals found they all had properties that can combat rhinovirus, the main virus responsible for the common cold infection in humans. Now it is hoped scientists will use this information to develop drugs that treat the common cold and help to protect sufferers of chronic lung conditions like asthma and Chronic Obstructive Pulmonary Disease (COPD) for whom viral infections can be extremely serious.

There is no cure and no vaccine so the development of effective therapies for human rhinovirus, the main causal agent of the common cold, and one of the most common causes of viral respiratory tract infections, is an urgent requirement, representing a major step towards finding a treatment. Researchers underlined the potential of antimicrobial peptides in tackling the influenza A virus.

This study suggested treatments that increased the level of antimicrobial peptides in someone infected with the flu virus may provide significant protection against the disease.

The new study expanded the work to explore the potential of antimicrobial peptides from pigs and sheep for fighting rhinovirus. Using peptides 'synthesised' in the laboratory, researchers assessed the impact of the different peptides on lung cells infected with human rhinovirus.

The peptides successfully attacked the virus, and could provide clues for developing novel treatments based on peptides found in nature.

This is an exciting discovery and our next steps will be to modify the peptide to make it even better at killing this virus. This research is still in the early stages, but researchers will ultimately be looking to develop drug treatments that have the potential to cure the common cold.

Source: http://www.medicalnewstoday.com.
C*ontributed by* Virology Research Division

Feeling Depressed? Smartphone Addiction could be to Blame

A survey of medical college students recently published in *BMC Psychiatry* revealed a potential link between smart phone addiction and symptoms of depression.

In 2016, over 1.5 billion smart phones were sold across the world. Since their invention in the 90s, smart phones have weaved their way into our everyday lives by helping us find directions, stay connected to our friends and family, as well as keeping us updated on current news. But despite helping us better navigate our daily lives, over-reliance on smart phones can be a form of addiction.

To study the prevalence and effects of smart phone addiction in college students, a group of Chinese researchers surveyed 1,441 smart phone-using 17 to 26-year-old medical college students. In their study published in *BMC Psychiatry*, the team found that almost 30% of students exhibited some form of smart phone addiction. The measurements were made using the Smartphone Addiction Scale which assesses addiction based on four symptoms:

1. Compulsive phone use such as constantly checking for messages
2. Increasingly longer and more intense periods of use
3. Feelings of withdrawal, agitation or distress during periods without their phone
4. Impairment and interference with other life activities such as a loss of interest in face to face social interactions

Shockingly, the researchers found that students exhibiting symptoms of smartphone addiction were also significantly more likely to exhibit symptoms of depression, anxiety, and suffer from poor sleep quality.

Source: https://www.medicalnewsbulletin.com.
Contributed by Blood Research Division

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

1. Circulation Journal. 2018 June; 82(6).
2. Ministry of Social Welfare, Relief and Resettlement – Newsletter. 2018 March.
3. Ministry of Social Welfare, Relief and Resettlement – Newsletter. 2018 April.
4. Myanmar Medical Journal. 2018 June; 60(2).
5. WHO Drug Information. 2018; 32(1).
6. WHO Myanmar Newsletter: Air Pollution. Special issue 2018 April.
7. WHO Myanmar Newsletter: Air Pollution. Special issue 2018 May.
8. WHO Myanmar Newsletter: Help Prevent Influenza. Special issue 2018 June.
9. WHO Technical Report Series 1009: WHO Expert Committee on Drug Dependence. 2018.
10. WHO Technical Report Series 1010: WHO Expert Committee on Specifications for Pharmaceutical Preparations. 2018.

ဆေးသုတေသနဦးစီးဌာနမှ ကျန်းမာရေးဝန်ဆောင်မှုအစီအစဉ်

- ဆေးသုတေသနဦးစီးဌာနမှ သုတေသနပညာရှင်များနှင့် ကုသရေးဦးစီးဌာန၊ ဗဟိုအမျိုးသမီးဆေးရုံကြီးမှ သားဖွားမီးယပ်အထူးကုဆရာဝန်ကြီးများ ပူးပေါင်းဆောင်ရွက်သော **"သားအိမ်ခေါင်းကင်ဆာစမ်းသပ်ဖော်ထုတ်သည့်ဆေးခန်း"** ကို ဆေးသုတေသနဦးစီးဌာနတွင် ဖွင့်လှစ်၍ စမ်းသပ်စစ်ဆေးလိုသူအမျိုးသမီးများကို အင်္ဂါနေ့ နှင့် သောကြာနေ့ နံနက် ၁၀နာရီ မှ ၁၂ နာရီအတွင်း အခမဲ့စစ်ဆေးပေးလျက်ရှိပါသည်။
- ဆေးသုတေသနဦးစီးဌာန **" ကာကွယ်ဆေးနှင့် ရောဂါရှာဖွေရေးဆေးခန်း "** တွင် အသည်းရောင်အသား၀ါ ဘီ ကာကွယ်ဆေးထိုးနှံပေးခြင်း၊ လိုအပ်သောစစ်ဆေးမှုများနှင့် ဓာတ်ခွဲစမ်းသပ်မှုများပြုလုပ်ပေးခြင်း၊ အသည်းရောင်အသား၀ါ ဘီပိုး/စီပိုး သယ်ဆောင်သော လူနာများအား ဆွေးနွေး၊ အကြံပြု၊ လမ်းညွှန်၊ ကုသပေးခြင်းများကို နေ့စဉ် (ရုံးဖွင့်ရက်) နံနက် ၁၀ နာရီ မှ ညနေ ၃ နာရီအတွင်း ဆောင်ရွက်ပေးနေပါသည်။

သို့

ကျန်းမာရေးနှင့်အားကစားဝန်ကြီးဌာနမှဝန်ထမ်းများအားဖြန့်ဝေပေးပါရန်မေတ္တာရပ်ခံအပ်ပါသည်။