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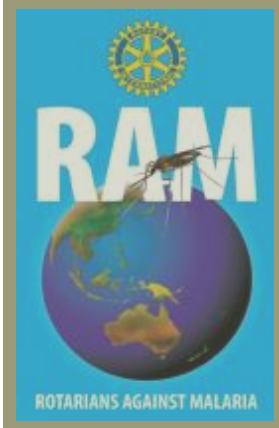
RAM Newsletter



Chairman's Message

My Rotary friends and friends of Rotary,

The World Health Organisation (WHO) recognises 25th April as World Malaria Day as a means of increasing awareness of this dreadful disease. Because this date conflicts with Anzac Day, a very important national day of remembrance in our country, 30th April has been selected as Malaria Awareness Day in Australia.

Our objective for this year's campaign is unaltered from last year, namely, to increase Public and Rotarian awareness of this disease and to provide a positive influence with membership development in each of our clubs.

The basis for this year's campaign utilises and builds on the successes we experienced last year as follows:

- All items under the Malaria Awareness Day heading on our website have been updated where deemed necessary. This includes the four suggested articles for use in club bulletins.
- Two articles have been sent to District Governors requesting they be included in their March and April newsletters;
- The 30 second TV Community Service Announcement (CSA) developed last year is again being used. Positive feedback already indicates at least one network will broadcast the CSA while another region is working on ensuring they are able to fill last year's void;
- Radio did not form part of the 2009 campaign but we were fortunate in being able to broadcast a CSA in a couple of areas. One of these was a community radio station which normally provides 16 broadcast spots but offered 32 spots. My research indicated the geographic spread of this one station covered 18 Rotary clubs.

It became readily apparent that this year we should provide a special focus on community radio stations particularly as it is an initiative that could result in a significant influence towards achieving our objective. This initiative was approved during our May 2009 National RAM Conference.

There are approximately 400 community radio stations in Australia. We are reaching out to every one of these stations and through them to virtually every community and the over 1,100 Rotary clubs in Australia.

Two announcements will be separately sent to each station. One announcement for broadcast during the week commencing Sunday 21st March will be sent to each station on 1st March. The second broadcast is for the week commencing Monday 26th April which includes Malaria Awareness Day and will be sent to each station on 1st April.

Clubs are asked to approach their local community station/s requesting they broadcast the announcements. Imagine the result we would enjoy if two or three or more Rotarians approached their local station to broadcast both announcements. I can already guarantee that my local station will be broadcasting both announcements.

I suggest this latest RAM initiative is a major step forward in our Malaria Awareness Day campaign. The end result can only be a positive through the public and Rotarians everywhere becoming more aware of this dreadful disease with a natural flow-on benefit being the real prospect of an increase in club membership.

PDG Bill Dethlefs
National Chairman

OUR OBJECTIVE

"The prevention of mortality, and a reduction in morbidity and social and economic loss caused by malaria through a progressive improvement and strengthening of local and national capabilities in malaria control."

CONGRATULATIONS!

Our sincere congratulations are extended to District 9600 Immediate Past District Governor **Wayne Morris** who was recognised by the Government of the Solomon Islands in the New Year's Honours List with an Order of the British Empire (OBE).

The award recognises Wayne "*For service to commerce, charity and the community*."

Rotarians Against Malaria in Australia (RAM), together with many other Rotarians and volunteers, is indebted to Wayne for the advice, assistance and support he has provided over many years with respect to a variety of Rotary projects in the Solomon Islands.

New weapon in fight against malaria

Researchers have found an enzyme that may prove an effective target for future anti-malarial drugs.

In collaboration with a multinational team, Queensland Institute of Medical Research (QIMR) scientists, Associate Professor Don Gardiner, Dr Katharine Trenholme, and team, have identified a new way to kill the parasites that cause malaria – a disease that kills over 1 million people every year.

"We have examined the structure of an enzyme that allows the parasite to obtain nutrients from the blood," said Associate Professor Gardiner. "If we can make a drug that will stop this enzyme from working properly, we can essentially stave the parasites to death."

Associate Professor Gardiner and his team have been studying the structure of the enzyme, and this latest research helps us to understand how it functions, and which drugs would be likely to work on this enzyme, killing the parasite.

"Using X-rays we could se the way the enzyme worked. We also added compounds to block the action of the enzyme, and showed without the enzyme, the parasites can no longer survive."

Associate Professor Gardiner hopes this will lead to alternative therapies for malaria. "The problem with current anti-malarial drugs is that they can react against the person taking them, often causing serious side effects. Knowing more about the parasite means that we can develop drugs that are more specific, and therefore less likely to act against people," said Associate Professor Gardiner.

"The prevention and treatment of malaria is also becoming difficult due to the global spread of drug resistant parasites. Resistance has appeared to all the currently available anti-malarial drugs and an effective vaccine is still many years away. If we do not maintain the edge against this parasite, with the introduction of new and effective drugs, the global death toll from this, man's most lethal parasitic infection, will only continue to rise."

This study was done in collaboration with McGill University, Monash University, University of Western Sydney, University of Edinburgh, Wroclaw University of Technology, University of Virginia, and University of Technology Sydney. The paper will be published in Proceedings of the National Academy of Sciences on 29 January 2010.

Source: The above article was extracted from the QIMR website and is authorised to be included in this newsletter by kind permission of QIMR Director Professor Michael Good.

DID YOU KNOW

Malaria has played a major role in history, from stopping Attila the Hun's invading armies in Rome; to decimating British troops in Holland in 1809, leading to a victory for Napoleon; to causing the deaths of 60,000 U.S. troops (one out of seven deaths) during World War II.

Source: B.S. Kakkilya, Malaria Site: All about malaria, History of Malaria during Wars.

ROLE OF MONOCYTES IN MALARIA IN PREGNANCY. CAROLINE CHUA'S PhD PROJECT.

University of Melbourne - February 2010.

Pregnant women have increased susceptibility to a wide range of diseases, including malaria. As a preventative measure, they are often advised against travelling to malaria endemic regions. However, women living in these countries are inevitably exposed to the risk of getting malaria throughout their pregnancy. It is estimated that 125 million pregnancies are exposed to the risk of malaria annually.

In the regions of high malaria prevalence, women are usually clinically immune to malaria by the time they reach reproductive age due to constant exposure to malaria and acquisition of protective immunity. However, when they become pregnant for the first time, they may suffer from severe clinical symptoms such as severe anemia. This is thought to be due to the accumulation of parasitized red cells in the placental blood. The malaria parasites can induce expression of "sticky" molecules on the surface of red blood cells, which help them to adhere to the placenta. Armed with this strategy, the parasites can evade clearance by the spleen, a mechanism by which old and altered red blood cells can be destroyed. These parasites can then grow to large numbers and accumulate in the placental blood: a condition called placental malaria. Because the "sticky" molecules allowing parasitized red blood cells to adhere to placenta are specific to pregnancy, pregnant women are considered immunologically naïve to these molecules; especially women in their first pregnancy. Consequently, these women are at high risk of poor pregnancy outcomes.

Since the placenta is responsible for sustaining foetal growth, it is not surprising that placental malaria is associated with poor birth outcomes including low birth weight (a term used to describe babies born at term but who weigh less than 2500g at delivery). Low birth weight due to placental malaria infection is a very significant public health issue. While some babies who are born small in developed countries are able to catch up on their growth with proper nutrition and advanced medical care, low birth weight babies in malaria-endemic regions often do not have the same privilege.

There are up to 100,000 infant deaths related to malaria associated low birth weight alone each year (about 1 every 5 minutes!). Those who survive into adulthood will however, remain in a vicious cycle of similarly giving birth to low birth babies. They are also at increased risk of chronic diseases in adulthood and have lower IQs than normal birth weight babies. The unacceptably high mortality and morbidity associated with placental malaria further impedes the economic growth of malaria endemic countries, which often are already struggling to cope with limited resources. Interventions designed to prevent malaria-associated low birth weight should be placed higher on the priority list of governments worldwide. This effort, however, is hindered by our lack of understanding on the mechanisms leading to low birth weight.

It is known that inflammation plays a significant part in the pathogenesis of placental malaria. As the parasitized red blood cells accumulate in the placental blood, cells of the maternal immune system are recruited to the site of infection to initiate an active immune response and promote infection clearance. However, this beneficial immune response can become harmful if uncontrolled and many studies have found a significant association between low birth weight and accumulation of a particular immune cell population (known as monocytes) in malaria-infected placentas.

Monocytes are immune cells that can be rapidly recruited to the site of infection. Different sub-populations exist but all can ingest and destroy other pathogen-infected cells, such as parasitized red blood cells, thereby helping to clear the infection. However, an imbalance in the different monocyte sub –populations during an inflammation can have detrimental effects on the placenta and lead to adverse birth outcomes, including foetal growth restriction and low birth weight.

There are only limited studies addressing the role of monocytes in placental malaria. Through various sponsorships, including from *Rotarians Against Malaria*, we have initiated the first investigation aimed at extensively characterizing the different monocytes sub –population in the placental blood of women suffering from placental malaria. This will be done at the phenotypic level (proportion of the restrictive sub-populations, activation status, comparison to circulating peripheral monocytes…) as well as at the functional level (capacity to ingest parasitized red blood cells and to produce immune mediators).We will be recruiting consenting pregnant women in Madang, Papua New Guinea and collect their placentas and a sample of their peripheral venous blood.

ROLE OF MONOCYTES IN MALARIA IN PREGNANCY
(cont.)

To address the phenotype of the monocytes, we will measure the expression levels of various surface markers using an approach known as flow cytometry. This will allow the quantification of the various monocytes sub-populations as well as the determination of their activation status. Monocyte function will be tested by incubating monocytes isolated from malaria-infected pregnant women with malaria stimuli in vitro and quantify their response in terms of production of immune mediators.

We will correlate our findings with the women's biological and clinical data to identify monocyte markers or functional state associated with poor birth outcomes. The identification of monocyte markers associated with poor birth outcomes could then be put into practical use as a prognostic or diagnostic marker, allowing early identification of pregnant women at risk of low birth weight such that they can be given proper and timely treatment. This ultimately will contribute to a better management of pregnancies in malaria endemic regions and, in the long run, will lead to reduced incidences of low birth weight.

Footnote: the author acknowledges the kind support of Rotarians Against Malaria through District 9810.

DATE CLAIMER

NATIONAL RAM CONFERENCE

15 & 16 MAY, 2010

St Columban's Catholic Secondary College, Caboolture, Qld
(on the northern outskirts of Brisbane)
Same location as the 2009 Conference.

Advice, including accommodation arrangements, will be made available early March 2010.

RAM Australia accepts new Leadership role

The 12 Pacific Islands countries and territories that make up ***The Pacific Island Regional Multi-Country Coordinating Mechanism*** (PIRMCC) held their 9th Annual Meeting in Fiji from the 18th to 21st October 2009. RAM Australia is recognised as a full member of this organisation.

An important part of the meeting was the election of the new Executive Committee to take PIRMCC forward in the immediate future. PDG Peter Thomas, a former chairman of RAM Australia was elected as a member of the Executive Committee, together with another person who is well known to many of us, Mr. Albino Bobogare from the Ministry of Health and Medical Service of Solomon Islands.

Our congratulation is extended to Peter Thomas for his willingness to accept this new leadership role. We know that his passionate commitment to those in need of our help and assistance will greatly assist in ensuring a successful outcome with respect to all aspects of the work being carried out in the region on behalf of the Global Fund, namely HIV/Aids, Tuberculosis, and Malaria.

The countries making up PIRMCC are: Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Nauru, Niue, Palau, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

Adopt A Village Program – Future Direction

The very successful *Adopt A Village* (AAV) program is going to change. Thanks to significant grants from the Global Fund (in PNG and the Solomon Islands), and similarly large funding by, amongst others, the Australian Government (in the Solomon Islands), *Adopt A Village*, in its present form must be adjusted.

Above all, the sustainability of the netting program for future years must be guaranteed, in the hope that an affordable anti-malaria vaccine is developed.

In Papua New Guinea (PNG) the Global Fund will, over the next five years, provide sufficient funds to ensure everyone can sleep under an appropriate Long Lasting Insecticide Treated bed net (LLIN). In addition, the fund will finance the treatment of malaria victims using Artemisinen Combination Therapy or ACT. ACT is very effective but its widespread use is restricted by its cost. It is stressed that the Global Fund initiative is a five year program. Rotarians Against Malaria (RAM) must position itself to ensure the sustainability of the LLIN supply as the initial LLIN's wear out.

The potential termination of funding after the initial LLIN's wear out could see a malaria explosion. The LLIN's currently in use do result in a decrease in the natural immunity achieved as a result of a lifetime of suffering. If the supply of LLIN's is not maintained and a major medical breakthrough is not forthcoming, a massive malaria epidemic may ensue.

The situation in the Solomon Islands (SI) differs from PNG. Global Funding for the continued supply of LLIN's will be ongoing. In addition, the Australian Government is providing funding for the establishment of the infrastructure for the netting program to operate. Rotary is working co-operatively with AusAid in implementing this program through our Volunteer Teams to assist in construction, and Donations-in-Kind (DIK) to transport materials.

But there is more! Part of effective malaria control involves the cleaning up of villages and eliminating possible breeding sites. The Solomon Island's Ministry of Health's Senior Malaria Officer has recommended that the Adopt A Village model be given a new focus. Villages which agree to implement appropriate management structures will receive tools, equipment and training to enable them to eliminate breeding sites in and around their villages. Their efforts will be monitored by the relevant SI Ministry of Health Department and by RAM. Your AAV contributions will help fund the supply of the necessary equipment. Your village 'adoption' will continue as before.

In summary, it is essential that Rotary Clubs, Rotarians, and the community continue to provide long term support for our nearest neighbours in the fight against malaria. Whilst our timeframe and approach may differ, our aim remains the reduction in the mortality and morbidity resulting from endemic malaria. We thank you for your past support and look forward to winning this battle in the future with your continued support.

Revised "Adopt-A-Village" for Solomon Islands

As discussed at the last National RAM Conference, a simple "clean up your village" program has been implemented on Guadalcanal.

The first wheelbarrows, shovels, crowbars, picks and bush knives have been purchased for distribution to community committee representatives from a number of villages. Villages have enthusiastically embraced the concept and the requests for tools exceed what is available (purchased with RAM funds).

The Guadalcanal Provincial malaria workers are doing a great job in community education. This proposal will be the turning point in the next stage of the malaria eradication program.

The mass distribution of treated bed nets is about to commence (delivery of nets into Honiara is scheduled for early in the New Year and distribution to all communities will follow immediately.) The residual spraying program will be ramped up next year (using a longer life slow release version of the insecticide), and the treatment program using the latest combination therapy drug "Coartem" has commenced. Funding to make all this happen (from The Global Fund) has been slow in arriving, but it is now in place and we are

about to see huge changes.

Our task in the building of infrastructure is on schedule. Four houses almost completed and twelve storage sheds erected and ready to warehouse the soon to arrive bed nets. The effort of the RAWCS Project Volunteers has been greatly appreciated by the Ministry of Health and Medical Services, and the Malaria Reference Group responsible for implementing the AusAID funded Pacific Malaria Elimination Program. We have been requested to undertake the erection of a further five houses and two sheds in 2010, commencing in mid-year so as to not clash with the very labour intensive bed net distribution program. All National Vector Borne staff will be fully engaged in this activity.

The timing of a community education and clear-up campaign sponsored by Rotary is critical. Funds for this activity have not been provided for in the Global Fund or Solomon Islands Government budgets. We can fill a much-needed gap in the overall program.

I think we could now actively encourage Clubs or individuals to add the provision of funds to supply tools to the "adopt-a-village" concept in the Solomon Islands. I have checked costings and availability of tools in Honiara and our original thought of $500 for a small village, $1000 for a medium, and $2000 for a large or multi location village would seem to be about right. Keeping it simple has obvious advantages when we are selling the idea, and for accounting purposes.

PDG Peter Thomas, December 2009

RAWCS - SOUTHERN REGION REPORT, February 2010

Jackie Gleeson Coordinator

Objectives via partnerships:

- To promote awareness of the risks of malaria, its prevention and control, in the Pacific.
- To promote Malaria Awareness Day, April 30th 2010.
- To promote the work of RAM, including the provision of impregnated mosquito nets to villages.
- To raise funds in the Districts, both within Rotary and the wider community, to support anti-malarial projects, including research, in Papua New Guinea, Solomon Islands, Timor Leste and Southeast Asia, to slow the transmission of malaria.

Strategies:

1. RAM banner: D9820 has taken up this initiative as have D9790 (5 banners, D9800, D9810).
2. RAM Collection Tins: D9810 continues with this initiative with increased activity in Gaming venues.
3. **RAM Brochure – Malaria Awareness Day April 30:** Districts 9810, 9790, 9820, 9830 and 9780 have adopted this initiative in the footsteps in D9800 in 2009.
4. Walk Against Malaria, Help Stamp out Malaria: D9790 RC Heidelberg initiative 14 March 2010 – see website for details www.mozziewalk.org.au
5. D9810 Malaria Research: is assisting with funding for the university of Melbourne study of the pathogenesis of low birth weight associated with malaria in pregnancy in PNG – Caroline Chua's PhD Project (*refer separate report in this newsletter*).
6. D9820 Rotary Conference: PDG Ian Sayers, RAM Deputy National Chairman – a stage presentation "The latest on the Rotarians Against Malaria Program".
7. **Malaria Awareness Day 2010:** D9820, as in 2009, a large mosquito in the form of a money box in a shopping centre and smaller mosquitoes in schools. All six primary schools have been approached.
8. D9810 Rotary Conference: Dr Philippe Boeuf (a member of Prof. Rogerson's research team at University of Melbourne) is presenting "Malaria Research in PNG" at the Conference.
9. D9810 Malaria Awareness Day Dinner, April 30 2010: Presentation by Prof. Geoff McFadden titled "Malaria – the plant connection". Geoff has identified the relict chloroplast in malaria parasites and is developing herbicides as anti-malarial drugs.

A Highly Successful Outcome

Rotary Cub of Buderim, in partnership with Rotary Club of Woombye Sunrise, both District 9600 (part of Queensland, Papua New Guinea and the Solomon Islands), organised a special dinner as part of Malaria Awareness Day 2009 (RAM Newsletter 2008). The clubs targeted to raise A$4,000 to be directed towards a Matching Grant for bed nets as part of the 'Adopt A Village' programme in PNG. Guest Speaker was Professor Dennis Shanks, Director, Australia Army Malaria Institute, located in Brisbane.

The clubs were so successful with this Malaria Awareness Day special event that nearly A$4,000 was raised, half of which was attributed to each club.

Buderim Club provided further significant funding which ensured US$6,755 was committed to the MG, with District 9600 adding a further US$5,000. Buderim club's sister club in New Zealand, Wanaka Central Otago (District 9980) contributed US$3,245 with their district contributing another US$5,000. Host Club Port Moresby in PNG added US$100.

The total amount of the MG was ***US$20,100***. This amount will provide ***3,280*** bed nets for villages in Bougainville.

Overall, a highly successful outcome achieved through the co-operation of three clubs and their two districts.

Well done, especially to Rotary Club of Buderim, for the important part you played in initiating this event, thereby ensuring Malaria Awareness Day 2009 achieved the success it did.

Photos

A selection of photos relating to bed nets only was placed on our website www.ramaustralia.org in early January 2010.

A link to the photos has been included on each of three pages, namely Adopt A Village, Malaria Awareness Day, and Latest Updates.

We are grateful *to Australian Doctors International* for providing us with these photos which are available for general use.

Hayden Tolley

Hayden, the 10 year old son of parents who are both Rotarians in the Rotary Club of Robinvale, Euston in District 9520, was motivated to do something worthwhile towards the Community Service segment of his Compass Award at his school.
He saved his pocket money and did odd jobs to raise $80 towards eight bed nets for Papua New Guinea.

Congratulations Hayden. A great effort!

Reprinting the RAM Brochure

The well known 'blue' RAM brochure is to be updated and reprinted for the new Rotary year.

The editor would welcome any corrections that readers have identified as being necessary, any suggestions as to what other information could be included, what could be deleted, as well as ideas to make the document more appealing and more useful as the front line contact between RAM and Rotarians in clubs, as well as the general public.

Send contributions to : PDG Richmond Manyweathers at <manys@bigpond.com> or, if you wish to write over an existing leaflet, post it to 19 Babbin Pl., Caringbah, NSW, 2229.

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Contributions and comments are welcome.