

Full Length Research Paper

Novel Immune Supportive Prevention of Malaria, Data Collection Research in the city of Bukavu (DR Congo)

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This study evaluates the Africa Malaria Prevention Project (AMPP), which aims to enhance immunity against malaria using PC240m, a Source Resonance developed by Peter Chappell in 2002 based on Information Medicine. The research involved an observational, non-randomized outcome study in Bukavu's Kadutu health zone, divided into 13 health areas (HAs). From 2019-2023, AMPP was implemented in HAs 1-5 [2019: n=16.000 (8,9% of population); 2023: n=40.121 (19,2%)]. HAs 6-10 introduced AMPP in 2023 [n=33.636 (20,7%)], while HAs 11-13 served as controls throughout. Baseline data from 2018 and registered malaria cases and deaths (2018-2023) were analyzed using random-effects meta-analysis, because individual level-data were not available. This restricts the validity of the data. Results revealed significant reductions in malaria cases (odds ratio 0.55) and malaria-related deaths (odds ratio 0.61). Individuals treated with PC240m were 45% less likely to develop malaria and 39% less likely to die from it compared to controls. These findings suggest PC240m might effectively enhance immunity against malaria and might offer a feasible, inexpensive, and safe prevention strategy. Further research with cluster-randomized trials and individual-level data is necessary for more precise comparisons and validation of results.

Keywords: Malaria, Prevention, Immunity, Resonance, Information Medicine, PC240m

Abbreviations:

- ARHF – Amma Resonance Healing Foundation
- AMPP – Africa Malaria Prevention Project
- CEEACO – Community of Evangelical Churches of Friends in Congo
- HA – Health Area

INTRODUCTION

Malaria, a mosquito-borne infectious disease caused by Plasmodium parasites, continues to be a significant health burden in Sub-Saharan Africa, with approximately 94% of all malaria cases and deaths occurring here (WHO, 2024). It disproportionately affects the most vulnerable populations, including children under five and pregnant women. In children, malaria can lead to severe anaemia, neurological damage, and even death if left untreated (Greenwood and Fidock, 2018). Pregnant women with malaria are at an increased risk of miscarriage, stillbirth, and delivering low birth-weight babies, contributing to infant mortality rates (Desai et al, 2007). Moreover, repeated malaria infections can lead to long-term cognitive impairment in children, impacting their educational attainment and future economic prospects (Fernando et al, 2010).

Overwhelmed healthcare facilities often struggle to cope with the influx of malaria cases, leading to strained resources and compromised quality of care for other health issues (WHO, 2023). Annually, there are approximately 233 million cases of malaria in Africa, leading to about 580,000 malaria-related deaths (WHO, 2023). The economic costs associated with malaria in Sub-Saharan Africa are substantial, with estimated losses of billions of dollars annually due to healthcare expenditures, decreased productivity, and lost income (Gallup and Sachs, 2001).

On a societal level, malaria perpetuates a cycle of poverty in Sub-Saharan Africa, especially in rural communities. Additionally, the disease impedes foreign

investment and tourism, hindering economic growth and development efforts in the region (Sachs and Malaney, 2002).

Addressing the challenges posed by malaria in Sub-Saharan Africa requires a comprehensive approach that encompasses preventive measures, such as vector control through insecticide-treated bed nets and effective treatment with antimalarial drugs (Bhatt et al, 2015). The development of resistance to drugs poses one of the greatest threats to malaria control and results in increased malaria morbidity and mortality. Investing in research and development for new malaria interventions are critical components of malaria control and elimination efforts (Alonso and Tanner, 2013).

The Novel Immune Supportive Prevention called PC240m is a medicine (Source Resonance) that can enhance the immune system's response against malaria. Source Resonances are based on the principles of Information Medicine, which combines recent advances from thermodynamics, quantum biology, and water memory, to promote health and well-being. Coherence is a key quantum phenomenon supporting life dynamics (Henry and Schwartz, 2021; Manzalini and Galeazzi, 2019; Gerbaulet and Henry, 2019; Madl and Renati, 2023; Henry, 2020).

Information Medicine leverages water's ability to receive and store information to regulate cell behaviour. The *Source Resonance* PC240m is created by imprinting water directly with the symptom totality of malaria, using a special process developed by Peter Chappell. Resonance, a coherent phenomenon explained by quantum field theory (QFT), occurs when the frequency of an external source matches the frequency of a system, leading to an amplification of energy. Small amounts of energy or information can have large effects on the body

by resonating with the natural frequencies of the coherent domains in water (Pollack, 2013; Al-Khalili and McFadden, 2015).

Using the same principles, a Source Resonance called PC1 was designed for the treatment of HIV/AIDS. This study found evidence that PC1 effectively restores health in HIV-positive patients in Africa within a few months and will prevent patients from relapsing with continuing treatment. It gives first evidence that the immune system can be enhanced using Source Resonances (van der Zee and Walach, 2024).

Until the study in Bukavu was conducted, anecdotal reports pointed to the possible usefulness of using PC240m to prevent malaria. Already in 2004 it was observed that patients that had been treated for malaria with PC240m, stayed free from malaria for 6 months or longer (Hiwat and van der Zee, 2004), indicating a possible preventive effect. Using PC240m for malaria prevention was tested out in DR Congo (2009) in a school of 600 school children and a nearby village, and in a nursery in Mzuzu, Malawi (2012) (van der Zee, 2016).

Based on the observed results, the Africa Malaria Prevention Project (AMPP) started in 2013. Schools making AMPP available to pupils reported reduced absenteeism, and hospitals fewer malaria-related hospitalizations and deaths (van der Zee, 2016).

The Democratic Republic of Congo (DRC) has the 2nd highest number of malaria cases and deaths globally. Malaria is the main cause of morbidity and mortality in the country. In 2018 it accounted for more than 44% of all outpatient visits and 22% of deaths (Severe Malaria Observatory, 2022).

The current population of the DR Congo is 102,262,808 (2023). In 2023 the under 5 mortality rate was 73,8 per 1.000 live births (Worldometers, 2024).

In the WHO World Malaria Report 2019 the following data are presented for DRC:

- Presumed and confirmed cases: 18,208,440,
- Estimated cases: 26,888,424;
- Reported deaths: 18,030,
- Estimated deaths: 44,615;
- Under 5 mortality due to malaria (2016): 39,001 (WHO, 2019).

The city of Bukavu is nestled along the eastern shores of Lake Kivu in the Democratic Republic of the Congo (DRC). Malaria is endemic in Bukavu, and despite efforts to combat the disease it remains a leading cause of morbidity and mortality (WHO, 2024).

The burden of malaria weighs heavily on Bukavu's healthcare infrastructure while many residents struggle to afford treatment (Bonnet and Irving, 2017).

The direct costs of healthcare for malaria treatment, coupled with indirect costs such as lost productivity and decreased school attendance, drain resources from families and the local economy (Gallup and Sachs, 2001).

The long-term consequences of malaria, including cognitive impairment in children and decreased earning potential in adults, further entrench poverty in the community (Fernando et al, 2010).

AMPP can be made available for 10 cents per person per year, and started in Bukavu January 2019 as health service of the Community of Evangelical Churches of Friends in Congo (CEEACO). In 2019 CEEACO made AMPP available to 16.011 people, in 2020 to 23.610.

Bukavu is divided in 3 communes: Bagira, Ibanda and Kadutu. CEEACO focussed on 5 of the 13 health areas in Kadutu: Maria, Weshu, Neema, Uzima and Cimpunda. Collecting data from these 5 health areas and from the remaining 8 offered the possibility of studying the impact of AMPP on the incidence of malaria cases and deaths.

Objectives

The objective of this study was to be of service to these communities and at the same time investigate the underlying hypothesis that PC240m might effectively prevent malaria in Africans.

Justification

If the indications from unsystematic experience, anecdotal evidence and data collection performed in schools are confirmed, PC240m may be assumed to significantly prevent malaria in people that have been born and raised in malaria endemic areas.

This treatment is inexpensive and safe, while the distribution and administration of the remedy is very simple. Thus, the potential impact is major and the positive health care impact is considerable.

MATERIALS AND METHODS

This was an observational, non-randomised outcome study with health areas where AMPP was not made available for comparison. It was a naturalistic field study with the primary aim of serving people. The 13 Kadutu health areas were divided as follows.

1. *AMPP-areas*: Maria, Weshu, Neema, Uzima and Cimpunda.
2. *Cross-over-areas*: Nyamugo, Buholo/8e CEPAC, Ceca Mweze, Ciriri 1, Funu.
3. *Non-AMPP-areas*: Ciriri 2, Biname, Nyamulagira.

In the 5 *AMPP-areas* as many people as possible were offered PC240m from 2019-2023. In the 5 *Cross-over-areas* no AMPP was provided from 2019-2022, after which in 2023 AMPP was started in these areas. No AMPP was provided to the *Non-AMPP-areas* in any year. Groups of volunteers would enter the health areas and provide PC240m to as many people as possible. This activity continued throughout the year so people could start using PC240m any month of the year.

Provision of PC240m

PC240m is a remedy that Peter Chappell devised using the totality of malaria-symptoms in Africa and using intentional imprinting of this symptom picture as a remedy in water. This stock-imprint remedy is then dispersed over globules.

PC240m was prepared by Hahnemann Pharmacy (Netherlands) following Good Manufacturing Practices (GMP) and the guidelines of the European Pharmacopoeia (EDQM, 2023).

PC Malaria Master Bottles were made in 20ml dropper bottles with a dilution of 1 granule per bottle in mineral water containing 20% medical alcohol.^v The bottles with granules as well as all prepared dropper bottles were stored at room temperature, outside of the sun, and in a locked cupboard. All materials used to fill the bottles were cleaned with alcohol before the dilutions were made.

For dispensing the remedy, PC Malaria Dispenser bottles were prepared. In a 500 ml plastic bottle of still mineral water 5 drops from the PC Malaria Master Bottle were added. A label with PC240m written on it was put on the Dispenser Bottle after which it was vigorously shaken (dynamization).

The study team of nurses, teachers and volunteers informed the population of AMPP and instructed those willing to participate on how to use the remedy. The team was to contact each user at least every two months in order to renew the dispenser bottle.

Throughout the year, participants used PC240m according to the following protocol:

- Children that received the remedy at school would only receive a dose at school days. During 2 weeks they received one dose daily. After that once per week. At the beginning of each new trimester they again received one dose daily for 2 weeks. If, because of a lock-down or other causes, schools would be closed for a longer period, the team would organize a way of reaching the children in an alternative way so they could receive a dose at least once a week. The dosage was 1 teaspoon to be held in the mouth for 5 seconds after banging the bottle 5 times. Volunteers visited the schools once a month to verify if the remedy was given to students and to replace the master bottle if necessary.
- Adults were advised to take the remedy once daily for 2 weeks, and after that once per week. The dosage was 1 teaspoon to be held in the mouth for 5 seconds after banging the bottle 5 times. Families were called to return to volunteers to take another bottle when it was finished. In case clients did not come for a new bottle, volunteers were to visit their homes to replace the remedy.

^vThese milk sugar granules contain traces of water and alcohol from the liquid PC240m preparation prepared by the pharmacy according to a fixed protocol.

Outcomes and Measures

For each of the 13 health areas in Kadutu, the following data were collected and analyzed for the years 2018-2022:

1. Population in health area
2. Number of people that received AMPP in that year
3. Number of registered malaria cases ≤ 5 years old
 - a. Outpatients
 - b. Hospitalized
4. Number of registered malaria cases > 5 years old
 - a. Outpatients
 - b. Hospitalized
5. Number of registered malaria deaths ≤ 5 years old
6. Number of registered malaria deaths > 5 years old

Rules for including patients in the data collection:

- Any malaria patient registered outside of Kadutu and coming to consult in a health facility inside Kadutu was excluded from the study.
- Patients were included in the data file depending on the health area where they lived and where they were registered, and not depending on the location of the clinic or hospital that had treated them or to which they had been referred.
- Patients were included as outpatient or inpatient, and in case they died also as a case of malaria-related death.
- Any outpatient who became hospitalized later would only be counted as hospitalized and not as outpatient

Ethical considerations

The 'recommendations guiding physicians in biomedical research involving human subjects' from the 'Declaration of Helsinki' have been the ethical basis of this protocol. The study has been approved by Dr Gaston Lubambo Maboko, Chef de Division Provinciale de la Santé in South-Kivu.

All participants gave informed consent.

The remedy subject of this study, PC240m, chemically only contains water, some medicinal alcohol and a trace of milk sugar, and is therefore theoretically absolutely free of any side-effects, nor can it give any unwanted interactions with other medication. In the past 20 years there has never been a report received on side-effects with PC240m. PC240m can therefore be used without any risk by anyone, including children, pregnant women and elderly people.

The risks for people to take PC240m are considered extremely low, while the benefits can be large, since PC240m is expected to improve immunity and prevent malaria, hospitalization and death.

All participants entered the study voluntarily and they

AMPP Data collection in Kadutu Commune (Bukavu DRC) 2018-2023														
Kadutu (Bukavu)			Population per January 1	Number of people treated	NUMBER OF MALARIA CASES						NUMBER OF MALARIA DEATHS			
Health Areas	± AMPP	Year			≤ 5 years			> 5 years			Total all ages	≤ 5 years	> 5 year	Total
					outpatients	hospitalized	Total	outpatients	hospitalized	Total				
HA 1-5	non-AMPP	2018	169836	0	633	323	956	1563	826	2389	3345	69	95	164
	AMPP	2019	180464	16000	580	460	1040	1957	828	2784	3824	66	91	157
	AMPP	2020	190394	24375	484	372	856	1964	761	2725	3581	66	88	154
	AMPP	2021	196301	48754	433	371	804	1698	688	2386	3190	40	57	97
	AMPP	2022	202384	70472	432	251	683	1329	454	1783	2466	26	28	54
	AMPP	2023	208453	40121	411	359	770	1461	648	2109	2879	18	25	43
HA 6-10	non-AMPP	2018	144481	0	588	339	927	2090	745	2835	3762	38	63	101
	non-AMPP	2019	145700	0	646	324	970	1927	717	2644	3614	44	79	123
	non-AMPP	2020	148145	0	509	391	900	1948	795	2743	3643	37	64	101
	non-AMPP	2021	152736	0	456	427	883	1786	835	2621	3504	39	43	82
	non-AMPP	2022	157468	0	1139	538	1677	3493	1071	4329	6006	58	65	123
	AMPP	2023	162190	33636	482	425	907	1315	903	2218	3125	42	47	89
HA 11-13	non-AMPP	2018	54743	0	411	79	490	1517	175	1692	2182	25	41	66
	non-AMPP	2019	55459	0	386	149	535	959	303	1262	1799	26	38	64
	non-AMPP	2020	56509	0	261	96	357	1063	329	1392	1749	23	36	59
	non-AMPP	2021	58260	0	228	179	382	1145	318	1463	1845	26	22	48
	non-AMPP	2022	60064	0	822	367	1189	1361	630	1991	3180	42	31	73
	non-AMPP	2023	61864	0	374	287	661	1055	492	1547	2208	35	27	62

2018: Base-line (blue) in all 13 health areas
 HA 1-5: AMPP (green) 2019-2023 --- HA 6-10: non-AMPP (blue) 2019-2022; AMPP (green) 2023 --- HA 11-13: control group (blue) 2019-2023

Table 1: Malaria data collection in the 13 health areas of the Kadutu Commune from 2018-2023

were free at all times to stop taking the remedy or stop coming for follow-ups.

All files were kept safe by the Study Director and everything was done to safeguard confidentiality.

The Hahnemann Pharmacy supplied the Amma Resonance Healing Foundation with PC240m against cost price. ARHF is a registered not-for-profit organization and provided PC240m to Dr Bisibo and his team for free.

Statistics

Ideally, every person who had received PC240m and every person in the control cohorts would have been visited by a community nurse or health researcher to ascertain their status at regular intervals. This, however, was not feasible, as there was not enough funding for personnel. Hence, we had to resort to this summary way of collecting data for each cohort, as no individual-level data was available. This precluded a regular statistical analysis and necessitated a summary approach, using meta-analysis of the cohort-level data. Clearly, this is a suboptimal way of analysing data from such a study and can thus only give initial indications as to the potential usefulness of the intervention.

The summary statistics of all cases in comparison to the total of the population in the control group or of the population that received PC204m were used and analysed conservatively with a random-effects meta-analytical procedure to account for high variability. The

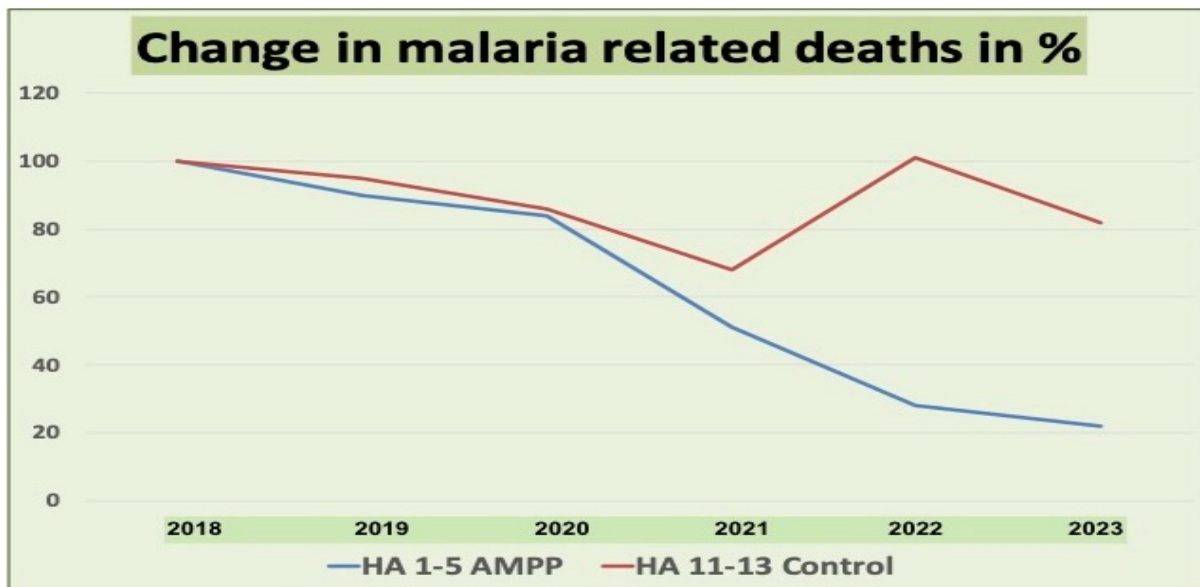
analysis was conducted with Comprehensive Meta-Analysis version 2 software.

RESULTS

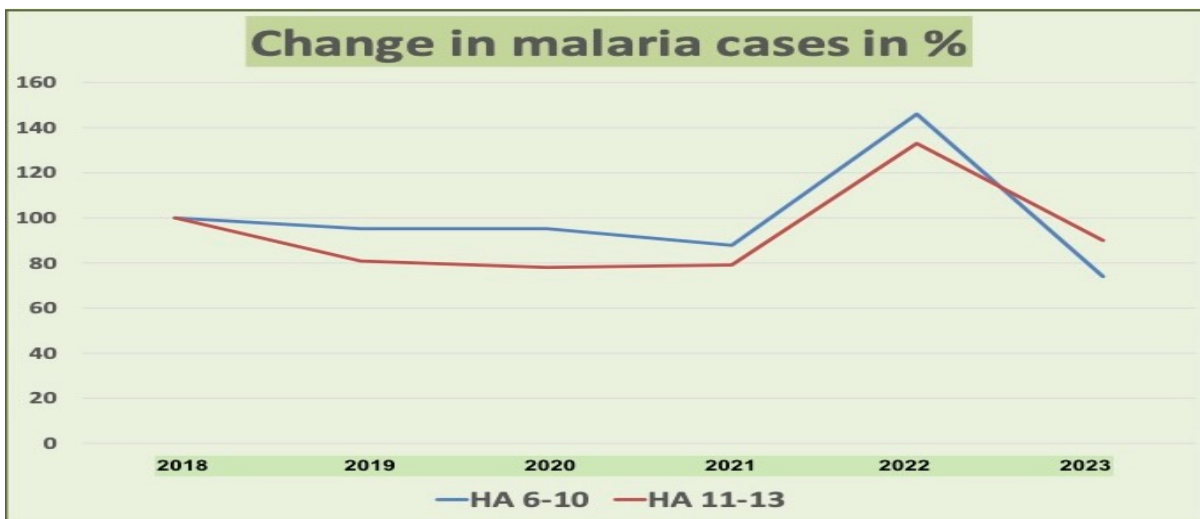
For the period of 2018-2023 the following malaria related data were collected in each Kadutu health area (See Table 1):

- The population at January 1
- The number of people treated with PC240m
- For the age group 0-5 years old the number of outpatients and hospitalized patients
- For the age group >5 years old the number of outpatients and hospitalized patients
- For the age group 0-5 years old the number of malaria related deaths
- For the age group >5 years old the number of malaria related deaths

For both markers, treated malaria cases and malaria related deaths, the analyses yield significant results. As the heterogeneity is high ($\tau^2 = 0.28$ for mortality and 0.13 for cases) it was considered prudent to rely on the random effects model for effect size estimation. The analysis of cases yields an odds ratio of 0.55 (95% confidence interval: 0,40 to 0,76, $z = -3.6$; $p < .001$), the analysis of deaths an odds ratio of 0.61 (95% CI: 0,38-0,99, $z = -2,0$; $p = .044$). This would mean, a person treated with PC240m is 45% less likely to develop malaria and 39% less likely to die of it compared to a



Graph 1: Change in registered malaria related deaths in treated health areas (HA 1-5) compared to control group (HA 11-13). For each group 2018 was taken as 100%. Percentages are corrected for population growth.



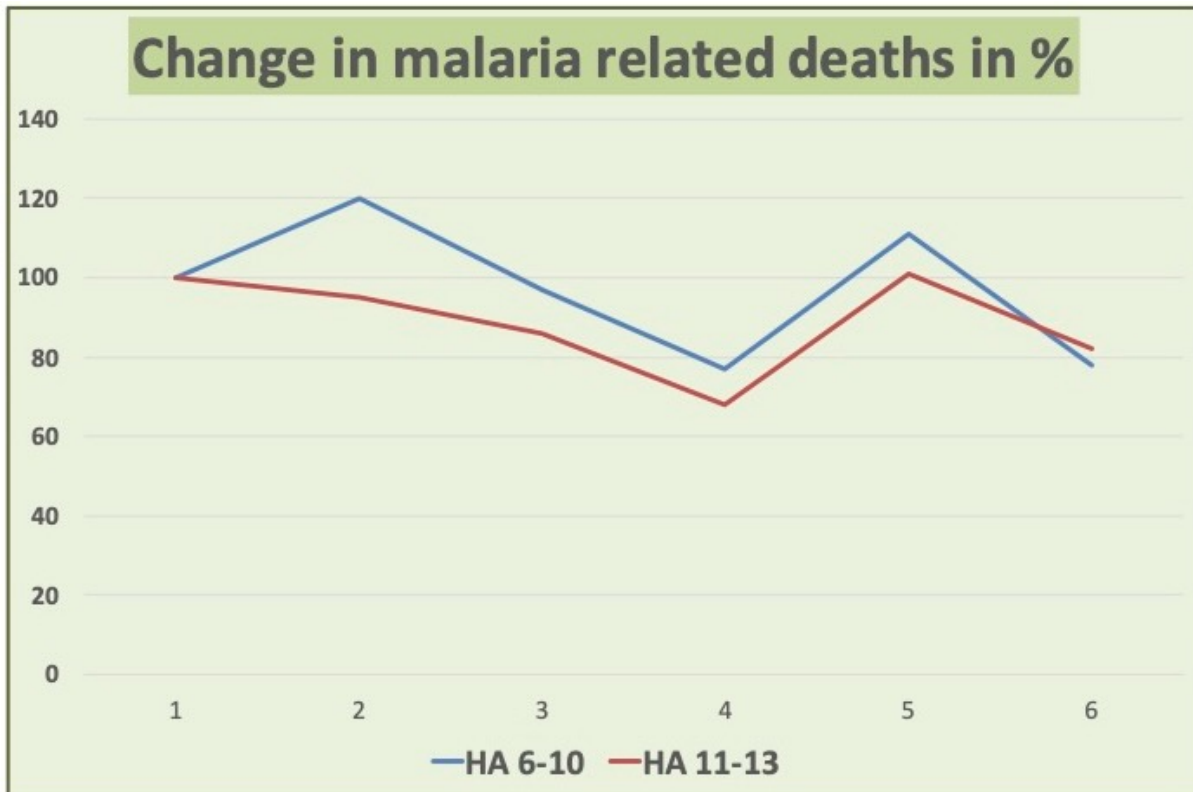
Graph 2: Change in registered malaria cases in the cross-over area HA 6-10 compared to HA 11-13. For each group 2018 was taken as 100%. AMPP was not made available in both areas until 2023, when PC240m was made available to 33.636 people (20,74% of the population) in HA 6-10. Percentages are corrected for population growth.

control person.

Regarding other potential factors, such as mosquito net distribution or healthcare access, which could have contributed to the reduction in cases and deaths in the study group, no differences were observed between cohorts throughout the duration of the study.

While the above analysis compares PC240m treated populations as a whole to the control cohorts as a whole, even though only a small percentage of the treated population actually received AMPP, one can also look at the data as a percentage of all persons treated compared to the untreated control cohorts descriptively:

Graph 1 shows how for malaria related deaths HA 1-5 (AMPP) increasingly diverts from the control group (HA 11-13). After 5 years of making AMPP available malaria related deaths are reduced by 78%. The percentage of the population that received AMPP in HA 1-5 was: 8,87% in 2019; 12,80% in 2020; 24,84% in 2021; 34,82% in 2022 and 19,25% in 2023. The increasing reduction of malaria related deaths possibly suggests a cumulative effect. It is not known how long the effect of malaria prevention continues after a person no longer takes it. Clinical experience suggests 6 months or longer. (van der Zee, 2016) Persons that used it in one year may have not



Graph 3: Change in registered malaria related deaths in the cross-over area HA 6-10 compared to HA 11-13. For each group 2018 was taken as 100%. AMPP was not made available in both areas until 2023, when PC240m was made available to 33,636 people (20,74% of the population) in HA 6-10. Percentages are corrected for population growth.

used it the next year. In case of a prolonged effect this would influence the data.

- While in 2022 cases and deaths were rising strongly in HA 11-13, they kept going down in HA 1-5.
- When in 2023 a lower percentage was treated in HA 1-5 than in previous years, the rate of malaria related deaths kept going further down.

In 2023 a lower number of people were treated in HA 1-5 because the team included the cross-over area HA 6-10 in AMPP. This gave the opportunity to see whether this would have an effect on malaria cases and deaths in HA 6-10 compared to HA 11-13. Both these groups showed similar data until 2023, but after introducing AMPP in 2023 the line for HA 6-10 started to cross the one for HA 11-13, both for malaria cases and malaria deaths. (Graph 2 and 3)

DISCUSSION

This observational, non-randomized outcome study showed indications that populations treated with PC240m had fewer malaria cases and fewer malaria deaths, compared with untreated cohorts. This in itself is an interesting indication that this treatment warrants further, more diligent study, preferably in a large randomized or cluster-randomized study, in which careful patient-level data is monitored over a sufficiently long period. The

exceptional properties of this information medicine treatment make it a strong candidate for further study and potential mass distribution: it is very cheap and it is completely free of any side effects. Ideally, such a population wide distribution is accompanied by a methodologically rigorous field evaluation. This present preliminary study allows for a calibration of effects and more diligent planning.

It is very feasible that the costs of making this treatment available to a wider population can be covered by health care savings due to reduced outpatient treatment, reduced hospitalisations and reduced malaria deaths. Based on the current costs of malaria treatment and hospitalisation in Bukavu, this translates into the following health care savings for the year 2023:

- Outpatient treatment savings for children aged 0-5: \$2,730.
- Hospitalization savings for children aged 0-5: \$33,250.
- Additional outpatient treatment costs for individuals aged 6 and older: -\$1,470.
- Hospitalization savings for individuals aged 6 and older: \$136,980.
- Total health care savings: \$171,490.

These savings are the result of making PC240m available to 73,757 children and adults in 2023, for which the local team of volunteers required a budget of \$4,300,-

This indicates a very high SROI-ratio of ± 40 (Social Return on Investment).

Scaling up the production of PC240m would be no problem for the European pharmacies that produce it. Distribution is easy and requirements for storage are simple.

Limitations

The study design did not control for all potential confounders. Exact proportions in both groups could not be compared as single person level data were not available. This also means that there are no records of people moving in or out of the investigated health areas, which introduces potential and unknowable bias. Although the administrators of the health facilities that provided the data were blinded as to whether their facility was in a treated or non-treated health area, the volunteers that gathered these data were not blinded.

COVID fell in the middle of this study, and lockdowns and social distancing complicated the distribution of the remedy amongst the population.

Although teams attempted to include as many people as possible right from the beginning of each year, reality is that many treated cases that were counted for a year, may have only started taking the remedy several months into the year. As a result the measured effect of AMPP is likely lower than it actually was or could be, if taken properly over a longer period.

Activities like handing out mosquito nets will have influenced the number of cases and deaths, but as these activities would influence the data of all health areas, they would not change the validity of changes measured between AMPP- and Non-AMPP-areas.

Analysis of the data using a meta-analytical approach was necessary, because only coarse-grained population level data were available. Thus, the effect estimates cannot indicate any individual level dispersion statistics like confidence intervals, nor is it feasible to conduct further analysis of potential sources of heterogeneity or bias, as no further data are available. This is a clear limitation of the study. The data should therefore be taken as potential indicators, and not as unbiased effect estimates. As a pilot result, the data need confirmation by a less biased study design, such as a randomized or cluster-randomized study.

This study is a first indication that the hypothesis underlying it, that PC240m might effectively prevent malaria in Africans, could be positively confirmed.

It indicates that PC240m possibly enhances the immune system's ability to effectively deal with malaria.

The study gives further substance to the claimed results with the use of PC240m for prophylaxis as reported from several countries since 2009 (van der Zee, 2016).

The data seem to indicate that there is a cumulative effect when PC240m is being distributed for several years in the same area, and that the resistance against malaria

remains higher even when the remedy is no longer taken. How long the effect remains would be a study by itself.

The data also suggest that the effect of PC240m on the number of malaria related deaths is stronger than on the number of cases. This could suggest that the immune system of those that fall ill is better able to fight the disease so its course remains milder.

The study has involved African people that have been living in a malaria endemic area all their lives. As genetic effects influence the variability in the risk of severe and complicated malaria, the outcome has no predictive value for use by travellers coming from countries where malaria is not endemic (Kariuki and Williams, 2020).

CONCLUSION

This first observational, non-randomised outcome study suggests that with further research PC240m might be confirmed to be a safe, effective and low-cost way of preventing malaria and malaria related deaths in African people. As a next step a study with single person level data would make a more rigorous analysis of the data possible through a comparison of then the exact proportions between the treated and the control group.

Conflicts of interests

The authors declare that there is no conflict of interest.

Author's contribution

H. van der Zee and D. Bisibo contributed to the design and implementation of the research. J. Balikwisha instructed the team of volunteers and supervised the study. H. Walach prepared the analysis of the results. All contributed to the writing of the manuscript.

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