

Book Reviews

Mosquito net: A story of the pioneers of tropical medicine, Cryil Fox (I2i Publishing, Manchester) 2008. 253 pages. Price: £ 11.95
ISBN 978-0-9560369-0-2

Mosquito net (title misleading) is a chronological account of the life and works of four legendary figures in public health - Manson, Ross, Reed and Gorgas. All four men had mosquito in common in their great triumph in battling some of the most dreadful diseases - Malaria and Yellow Fever. The book documents the most fascinating great discoveries of the late 19th and early part of 20th century. Biographies of the all four bring out personal hardships when research was not a rewarding profession. Each man worked in the tropics risking his life.

Mosquito net is divided into two parts. Part one deals with Malaria - Manson and Ross (12 chapters) and Part two with Yellow fever - Reed and Gorgas (7 chapters). Chapters 1 and 2 deal with Patrick Manson. Born in 1844, he was just 22 when he received the Doctor of Medicine from the University of Aberdeen. Manson wrestled with the problem of elephantiasis, but his microscope was no good and the place lacked scientific literature. He went to London and visited British Museum. There he was rubbing shoulders with a revolutionary Karl Marx. Both destined to make history. This short trip to London gave him a clue of the cause of elephantiasis-worms in the system. In 1877, Joseph Bancroft in Australia found adult worm but the life history of the worm still eluded the helminthologists of that time. Manson took up the challenge and discovered the life cycle of the parasites. This was done by creating a "Mosquito House" which had good supply of mosquitoes. It took him painstaking long years of toiling before he could establish the mosquito transmission of lymphatic filariasis. On this epoch making discovery Manson wrote that "I was not

looking for this parasite when I found it, for a man may search for a shilling and find a sovereign". In 1895 Manson was elected a Fellow of the Royal College of Physicians of London. He converted one room in his house in to a small study cum laboratory. This nucleus was destined to become the future London School of Tropical Medicine. In this room in 1890 Romanowsky described a stain for separating the features of the cell. The same year he began to turn his mind to malaria. A few months later Ronald Ross arrived to see Manson. This historical meeting sprang in to a story of discovery, friendship and sadness unrivalled in the annals of medical history. By coincidence Manson was in the audience of Ford's theatre in Washington when Abraham Lincoln was shot, and he became a "doctor in the house" who treated Lincoln but Lincoln died of head injuries next morning. Manson's triumph was the founding of London School of Tropical Medicine. Supported by Rockefeller Foundation grant London School of Tropical Medicine and Hygiene was built in Keppel Street, opposite to London University's senate house in 1929. For his contributions in tropical medicine Manson was elected Fellow of the Royal Society in 1900, and in 1903 he was knighted. He received the specially designed gold medal from the hands of distinguished Frenchman, Prof. Raphael Blanchard. Presenting the medal Blanchard announced Manson as the "Father of Tropical Medicine". In 1941 he retired and remained in Ireland until 1921 and died in 1922 at the age of 77.

Chapters 3 to 12 relate to Ronald Ross. The author has painstakingly brought out his lineage, early education and joining the Indian Medical Service. Ross had a meeting with Manson on April 10, 1894. It was a beginning of an extraordinary relationship. One day Ross and Manson were walking along the Oxford street and at about 2:30 Manson said "do you know that I have formed the theory that mosquitoes

carry malaria just as they carry filaria". This was a very special moment in the history of the fight against malaria. Manson told Ross "follow the flagellum and you will solve the problem". This follows a brilliant account of the "Follow the Flagellum". Ross returned to India full of new ideas, commencing his work from Secunderabad in 1895. He was in correspondence with Manson during all these years communicating all his work and seeking his advice. He contracted malaria but while in the rest house he spotted a dapple shaped mosquito. Ross described a real thrilling account of his dissecting a mosquito on the 20th, August, 1897 which had malaria parasite. His job was done. He was transferred to Calcutta and there he successfully demonstrated, the malaria parasite cycle in birds. Then the Italian story of the demonstration of malaria parasite cycle in humans was published. This was a shock to Ross and there was quarrel between Ross and Manson. Finally Ross was rewarded when he received the Nobel Prize Award letter.

Part 2 of the book provides biographical description of the two most outstanding men in the history of tropical medicine *viz.*, Walter Reed and William Crawford Gorgas. Chapters 13-15 describe the life and works of Walter Reed. Born in 1850 in Belroi, Virginia, and educated at the University of Virginia, Reed spent his early years in outpost of Arizona. Later Reed was assigned to lead a Yellow Fever Commission to investigate the outbreak of yellow fever in Havana. Yellow fever was a dreadful disease causing high mortality in the British army. An account of the Reed Commission is given in Chapter 14. It is most fascinating description of a systematic study of how an unknown Etiological agent was uncovered initially by discarding the theory of contaminated clothes. Reed proceeded to prove the mosquito hypothesis. Trials with humans were nonetheless taken up despite of obvious dangers. At the camp Lazear human volunteers were used to demonstrate that yellow fever is not transmitted by contaminated clothes. Yet in another experiment Reed showed that infected mosquitoes (*Stegomyia*) transmit yellow fever. In six months Reed Commission solved the yellow fever mystery. This is one of the most outstanding achievements in medical history. Reed did not live enough the reap the reward of his discovery, but his work led to yellow fever eradication from Havana, and the construction of Panama Canal.

Chapters 16-19 provide the clearance of Havana from yellow fever and malaria and the construction of Panama canal despite the fact that yellow fever was

raging then. Born on October 3, 1854 in Alabama, he was trained in medicine and worked for 18 years as an army doctor in remote posts in north Dakota, Texas and Florida. Dr William Crawford Gorgas was in command in Havana. For him the task was already laid out in the report of the Reed Commission. He followed the mosquito control and cases of yellow fever and malaria started declining sharply. Next he moved to the control of yellow fever, malaria during the construction of Panama canal. He continued the assault on mosquitoes to get rid of yellow fever and malaria. Ronald Ross visited the construction site and commented that people know their work well and I have nothing to add. In Panama in 1928 Gorgas Memorial Library was built in his honour. He converted the fever ridden land in Panama to the paradise people live today. Finally there is a chapter on Gorgas's glory worth reading. For political reasons he had to decline an opportunity of massive sanitary work in Serbia, and he commented "I feel the desire of an old soldier to die with my boots on".

In 1928 yellow fever vaccine induced prolonged immunity, and for this Max Theiller was awarded Nobel Prize in 1951. Malaria is a different cup of tea and the world community is struggling to develop malaria vaccine for mass immunization. A must reading book for students of medicine.

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Mental health aspects of women's reproductive health: A global review of the literature (World Health Organization, Geneva, Switzerland) 2009. 168 pages. Price: CHF/US \$ 30.00; in developing countries: CHF/US \$ 21.00
ISBN 978 92 4 156356 7

This publication is brought out jointly by the World Health Organization, the United Nations Population Fund and the Key Centre for Women's Health in Society, University of Melbourne, and reviews available data on the mental health issues in reproductive health. The review spans a period of 15 years and includes published and unpublished data from both high and low income countries. Data have been gathered from a variety of sources including peer

reviewed journals, consultant reports, national health programme evaluations, post graduate research work and surveys of researchers and interested parties.

The authors point out that mental health aspects of reproductive health are a sorely neglected topic, and there is a significant interplay between these two areas, an absence of awareness of the extent and effects of poor mental health on reproductive health, inadequate research and consequently, no appropriate policies.

The book seeks to raise awareness on the significant intersection between mental health and reproductive health and emphasize its public health significance. By providing the available information, it hopes to provide scope for public health professionals, planners and policy makers to consider appropriate strategies to deal with this area in its entirety, covering all the dimensions of these problems. The contributors themselves have suggested areas of further research and have made suggestions to improve policy and care.

The book is organized topically, beginning with an overview followed by discussions on different aspects of reproductive health and the mental health issues specific to each. Each chapter ends with a summary that focuses on relevant topics for future research, and suggestions for policy and services. Given the nature of the topics there is some overlap, for example, the discussion on cultural issues also includes socio-economic concerns. The conclusion provides an overview of the preceding chapters. The WHO survey questionnaire which had been sent to researchers is included in the appendix.

The definition of reproductive health is examined in chapter one. It discusses why mental health as a component of reproductive health is a neglected and poorly researched area and identifies that existing research is confined to a very narrow group of aspects of reproductive health, poor income countries with large number of problems having the least input in terms of finance and research and, lastly, the global lack of evidence base in the area. Current epidemiological data are limited by the lack of a comprehensive definition of reproductive health, the almost complete absence of data on the effects of co-morbid conditions, inadequate data from low income countries, and a focus on physical rather than mental health and the exclusion of all other than married women in the child-bearing age in research studies.

The focus of maternal mortality has always been the physical aspects of pregnancy. Chapter two details

the various mental health contributors to maternal mortality in the periods of pregnancy, childbirth and postpartum. Risk factors including gender disparities, adolescent or unwanted pregnancies, entrapment in situations of sexual or physical abuse, poverty and poor access to services for the termination of pregnancy and violence are reviewed. Cultural factors such as the social preference for a male child, blame being placed on the woman for the gender of the child and the lack of free reproductive choice for women are discussed.

The controversy about whether postpartum psychiatric disorders are related to psychosocial or biological factors and whether these are distinct from those observed at other times in a person's life cycle is discussed. Literature regarding transient postpartum blues, post partum depression and postpartum psychosis is detailed including epidemiological data, aetiology, biological and psychosocial risk factors and clinical features. The complex inter-relationship between maternal mental health and child behaviour is discussed in detail. Cultural variations in the ranking of risk factors related to maternal mental health and rituals and practices in the postpartum period are reviewed; despite these dissimilarities, the rates of depression are similar across cultures. There are sparse data on the efficacy of prevention strategies; the trials for the treatment of postnatal depression are mentioned.

Chapter three reviews the evidence related to the mental health effects of different contraceptives, for example, the reports of mood symptoms following the use of contraceptive implants. Most studies have focused on hormonal contraception and sterilization. The psychological issues related to contraceptive choices and the fact that the woman often has little or no control over her reproductive rights, also results in distress, anxiety and poor mental health. The importance of discussing contraceptive issues with women with serious mental illness is highlighted. Risk and protective factors that influence mental health after abortion are discussed with available literature. The need for specific training in the medical and psychological aspects of abortion is highlighted.

Mental health issues related to pregnancy loss are reviewed in fourth chapter. Responses vary and depend on cultural, social and individual factors, as well as health service facilities; the severity ranges from those requiring psychiatric intervention to situations of loss that are considered a relief. While much attention has focused on the medical management of women after a pregnancy loss, psychological intervention is poorly

studied and understood, and there has not been an evaluation of the existing services.

Chapter five reviews available data on the links between mental health and menopause. Literature is presented on the changes during this phase, cultural variations in the concepts, attitudes and symptoms of menopause and the medical treatments currently available. Though available evidence does not point to an increased risk of depression during menopause, several hypotheses have been postulated for depression in this phase of life including the direct effect of hormones, distress due to menopausal symptoms and factors not related to and independent of menopause. The influence of psychosocial factors on well-being in midlife is reviewed.

Available data on the morbidity from infectious, non-infectious and malignant gynaecological conditions are examined in chapter six. Symptomatology, epidemiological data, aetiological details and management strategies on these conditions are reviewed. It is evident that little attention has been paid to the psychosocial effects and quality of life measures among women with these conditions, many of which cause significant psychological distress.

Chapter seven reviews available data on women's mental health in the context of HIV/AIDS. Women are at a high risk of contracting the disease because of gender inequality that is entrenched and pervasive, resulting in suppression of their rights and gender based violence. A range of mental health problems are seen in HIV/AIDS, both as a direct effect of the disease, such as dementia and delirium, as well as due to its psychosocial consequences.

Psychological issues related to infertility and assisted reproduction are reviewed in chapter eight. The stigma related to infertility, more in some societies than others, and the tendency to place the responsibility for fertility squarely on the woman is highlighted. The issues related to possible psychological contributions to infertility are reviewed. The debate on whether the psychological disturbance in people with infertility is a psychiatric disease or distress related to a difficult life situation is presented and the various points of view discussed. The consequences of infertility on the marital relationship are also discussed.

Each phase of infertility treatment is associated with different psychological reactions; concerns regarding the financial costs of the treatment often compound the distress. The need for counselling

services during treatment is recognized and results of different treatment approaches are presented. The need for ongoing support to couples who do not conceive with treatment is mentioned.

The psychological aspects of pregnancy after assisted conception are complicated by the fact that many of these are considered high risk. Issues discussed include grief related to foetal reduction; maternal concerns about the growth and development of the foetus are common and the quality of parenting.

The section on the implications of newer technologies for infertility mentions the ethical, legal and psychological complexities related to various procedures including the use of donated genetic material, payments to donors and secrecy and disclosure issues. While little is currently known about this area, it is suggested that these emerging needs be further investigated.

The practice of female genital mutilation (FGM) is reviewed in chapter nine. There are several adverse physical, sexual and obstetric health effects which most studies focus on. While there are reports of anxiety and distress, others highlight the influence of culture altering responses. The controversy over whether FGM constitutes a human rights violation or a tradition is discussed; it is however, suggested that as long as the practice continues there is a need to address the associated psychological issues.

In chapter ten, the conclusions are presented with an overview of each chapter.

The book caters to professionals and health workers in the mental health and reproductive health fields as well as those involved in policy making. It provides a comprehensive summary of the available evidence in a coherent and concise manner. It powerfully highlights the lacunae in the evidence base, the extent of mental health problems in the target group and the urgent need for appropriate intervention. It achieves its goal of raising awareness and points out the shortcomings in current practice and policy. There are general suggestions for improvement and these reflect the need for massive changes in attitudes and a reappraisal of the status of women as well as the status of mental health. The need to look at reproductive health through a gender and human rights lens helps to move the perspective away from stereotyped concepts about women or a purely biological conceptualization; it helps to consider how several vulnerabilities including biology and psychosocial issues affect women's

reproductive health and how these can be effectively managed.

This book is recommended for its content, the large amount of evidence collated and its easy reading style.

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