

## HEALTH SYSTEMS RESEARCH DIVISION

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Health Systems Research Division focuses research on TB, HIV, Maternal and Reproductive Health, Non-Communicable Diseases in areas of social science.

### RESEARCH PROJECTS

#### 1. HEALTH POLICY AND HEALTH SYSTEMS RESEARCH

##### 1.1 MATERNAL AND REPRODUCTIVE HEALTH

###### 1.1.1 Accessibility and utilization of postnatal care among rural mothers at primary health care level in Myanmar

This is a collaborative study among Department of Medical Research, Maternal and Reproductive Health Division, Department of Public Health and Relief International. It aimed to explore the current situation of postnatal care (PNC) at the primary health care level at Rural Health Centre (RHC) and sub-RHC in Dedaye Township. The study was conducted in 23 villages under three Rural Health Centres (RHCs) of Dedaye Township, Ayeyarwady Region. Self-administered questionnaire for 58 Basic Health Staff (BHS) was introduced. A total of 331 mothers having at least one child under one year age were interviewed face-to-face by using pre-tested structured questionnaire to determine accessibility and utilization of PN care. Two Focus Group Discussions (FGDs) with midwives (MWs) from study areas and 25 in-depth interviews with mothers were conducted. Results indicated insufficient knowledge of BHS on PNC despite trainings provided in recent years. About 58.6% of BHS obtained high knowledge scores for PN care. However, low knowledge was observed for danger signs of newborn which needed urgent referral but 43.8% of BHS got high knowledge score on danger signs of newborn which need urgent referral. Regarding the knowledge on birth spacing, there was low knowledge score for Oral Contraceptive pills and management of missed pills. Among 331 mothers, 94.6% received PN care. However, only 6.7% received PN care till 6 weeks. The reported practice of BHS on PNC was satisfactory. However, in-depth exploration during FGDs revealed that majority of BHS could not perform PN care according to the guidelines. Most mothers received PN care from doctors (42.8%) and nurses (14.7%). However, 21.7% of mothers obtained PN care given by traditional birth attendants (TBA). Almost all mothers did not recognize that the PN period is 6 weeks and they perceived the PN period as only 7 days after delivery. The reason for community's perception of 7 days duration for PN period was unclear. However, it may be due to the period of umbilical cord falling out within 7 days after the delivery. Most respondents (both BHS and

mothers) paid more attention to childbirth/delivery period than PN period. Some explained that since the baby had delivered, critical period was over and it was less important to take care of mother. The main reasons for not able to provide proper PN care reported by BHS included transportation cost for mothers and MWs, mothers perceived PNC as unnecessary if there were no complications, MWs were not available at health centre and they were occupied with trainings and meetings at township level. Most BHS suggested health education to mothers to improve their awareness on the importance of the PN period. Some suggested the necessity to support mothers during PN visits through BHS. Some also mentioned about necessary support for BHS to make PN visits. The study recommended to provide training and refresher training for BHS focusing on PNC, to consider the out-of-pocket expenses for providers and community for PN care and to consider necessary support for health staff to provide PN care such as transportation, timing and essential medicines and to emphasize or educate community on period of PN is 6 weeks (42days) and importance of PN care.

### 1.1.2 Assessment of AMW performance in selected townships supported by 3 MDG

The study was conducted to assess the quality of AMW training and the quality of services provided by AMW in ante-natal care, at the time of delivery, post-natal care and neonatal care; to identify the causes and timing of referral cases, the outcome of referral cases, and feedback; and to assess community acceptance of services provided by AMWs. The study sites were two townships in Ayeyarwady and Magway Regions. The study methods included (1) desk review of training materials, manual and support tools; (2) In-depth interviews with District Medical Officers/Township Medical Officers or trainers who are conducting the training of AMWs and responsible for the overall supervision; (3) Focus Group Discussions with midwives and with mothers of under-one year old children and for patients' caregivers; (4) In-depth interviews with AMWs and with mothers of under-one year old children (those who took/did not attend antenatal care with AMW and those who delivered/did not deliver the baby with AMW); (5) Key Informant Interviews with community leaders; (6) Record review of AMW diaries and referral records, monthly reports to midwives, midwives' diaries and referrals, supervision reports by midwives. The findings suggest that AMWs in the study areas were assisting midwives in maternal, newborn and child health care, and other activities such as distribution of vitamins and iron supplements and immunization, and conducted some MNCH interventions on their own. As they are community volunteers with limited training, the study noted low knowledge and low skills in certain aspects of ante-natal care, deliveries, post-natal care and neonatal care. Therefore, more time should be allocated for practicals or hands-on training during the basic training period. The timing of refresher training was not systematically planned, and the interval between the initial training and refresher training was highly variable. Training of Trainers in both types of training was limited and the trainers conducted courses based on their experience. As a result of 3MDG support, more refresher training courses had been conducted in the past few years, leading to an improvement in knowledge and change in practice. The need for teaching/learning support materials and inter-active methods was evident. Knowledge and skills assessments of AMWs revealed areas for improvement, particularly in antenatal case examination of multiple pregnancies, maternal monitoring in the 2<sup>nd</sup> and 3<sup>rd</sup> stages of labour, communication with the mother on procedures and findings on examination. Referral guidelines for reimbursement set by 3MDG assisted AMWs in identifying risk cases requiring referral to township hospitals. However, most AMWs referred mothers with complications early as they worked in more difficult-to access areas and had to allow sufficient time for travel. In addition, the early referral was partly due to 3MDG support for referral and daily allowance for mothers as well as the government's recently

introduced policy for free deliveries. The selection of AMWs mainly followed MOH guidance; however there were slight variations between townships. The educational level was found to be a factor in attrition, as the better-educated AMWs would seek other works where there were better prospects. The change in civil status, i.e. marriage and having a family was another reason. The study noted reports of AMWs performing tasks beyond the scope of work, particularly giving vitamin and contraceptive (Depo Provera) injections. However, an area of specific concern was the use of injections that are perceived to be uterine stimulants to expedite labour and cervical dilatation. As AMWs have not been trained in this regard, this action could lead to detrimental effects on the mother and baby. Regarding remuneration for AMW (and midwives) services, mothers were satisfied as long as there were good outcomes. Generally there was good community acceptance of the AMW as an associate of midwives as the AMWs are natives of the village and easily available for initial consultations. They act as a bridge between the community and the health system. However, the community is aware that the midwife is more skillful than the AMW. Key recommendations to improve AMWs performance include more structured training courses with adequate time to develop competencies; this could be through increasing the duration of the course or designing the course programme to allow more hands-on training. There is a need to refine the teaching/learning methodology for more inter-active sessions supported by teaching/learning aids. In addition to clinical skills, communication with the mother and family should feature in training courses. The midwives should be well informed about new tasks and equipment assigned to the AMWs in order to better supervise and support them.

### 1.1.3 Out-of-Pocket Expenditure on Maternal and Child Health care services among rural households in selected township

(Please refer to annual review of Medical Statistics Division)

## 1.2 HEALTH SYSTEMS STRENGTHENING

### 1.2.1 Assessment of utilization of Urban Health Centres in Yangon and Mandalay Regions

Low utilization of Urban Health Centres (UHC) leads unnecessary overload at the tertiary referral hospitals by clinic attendance. This study is conducted to reveal the reasons behind low utilization of UHCs in Yangon (YGN) and Mandalay (MDY) Cities and to recommend ways to revert the situation with scientific evidences. The study covers the distribution and functionality of the UHCs, patterns of infrastructure, and availability of human resources for health, health services, and equipment. Both quantitative and qualitative approaches were used. One-third of UHCs was observed as poor physical condition and it was more marked in MDY. Dental health care services were lacking in many UHCs at both regions. Most of the referrals for clients of UHCs were to public hospitals for specialist opinion, hospitalization and treatment. Some UHCs referred clients for laboratory and investigation services. In general, UHCs in both YGN and MDY need to improve their diagnostic capacities than other services. The UHCs should be provided with some guidebooks that are lacking. The lack of equipment for dental care facilities and emergency kits was more common than other basic equipment. Basic essential drug especially antibiotics and antihypertensives insufficiency was also noted. Main factors to improve utilization were to improve physical image and infrastructure, to improve service package (including investigations for commonly needed) as much as possible, to strengthen referral system and to increase community awareness.

1.2.2 Time and Motion Study on Patient Flow at First Point-of-Care Units in Tertiary Care Hospitals from the Public Sector, Myanmar (2016)

(Please refer to annual review of Epidemiology Research Division)

1.2.3 Identifying Hospital Workload and Satisfaction of Inpatients at Tertiary Care Hospitals, Yangon Region, Myanmar (Phase I)

(Please refer to annual review of Medical Statistics Division)

## 2. COMMUNICABLE DISEASES

### 2.1 TUBERCULOSIS

2.1.1 Factors for sustainability of community health care volunteers for TB control in Myanmar

This is a collaborative operational research among DMR, National TB Programme (NTP) of Department of Public Health and World Vision Myanmar (WVM). It aimed to determine the process of being community health volunteers and their motives to involve in TB control activities and to identify the factors contributing to sustainability. A cross-sectional descriptive study was conducted in 2015-2016 in three out of five project townships of WVM in Tanintharyi Region based on volunteers' retention, floating and attrition. All Community Health Volunteers (n=59) were interviewed by using a structured questionnaire. Free listing and ranking were conducted during five focus group discussions. Six key informant interviews were done with focal persons from NTP and WVM and three in-depth interviews with volunteers who had left their jobs. Record reviews of volunteers' data at the WVM Office were also carried out. The age of respondents ranged from 16 to 53 years (mean age=30.1yr). About 95% of them were females and 44% were married. About 59% had other source of income. Monthly family income of volunteers ranged from 30,000 to 1,000,000 kyats and 79% earned between 100,000 and 300,000 kyats. Twenty two percent were volunteering in other sectors such as maternal and child health, nutrition, child development and 78% worked only on TB activities. About 37% were recruited by WVM staff, 24% by community-based organizations and 20% by community leaders. Almost all (98.3%) the respondents got training after joining as volunteers. The main reasons for volunteering included gaining opportunity to help people (100%), learning opportunity (75%) and the capacity to use time wisely (63%). Majority of volunteers responded benefits of being a volunteer as receiving merit (91.5%), improved health knowledge (86.4%), extended social network (72.9%) and gaining trust by community (62.7%). The duration of being a volunteer ranged from a few months to 10 years (mean=4.67yrs). A number of days for volunteer work ranged from 1-25 days per month with an average of 13.4 days. Main activities of volunteers were health education (98.3%), referral (98.3%), to remind patients to take anti-TB drugs (88.1%) and to take anti-TB drugs for patients from the respective health centre (86.4%). Nearly 92% received the performance-based cash incentive and the rest received a fixed amount of cash as an incentive. About 66.1% of respondents accepted fixed amount of cash as the most effective incentive for volunteers. The dropout rate of volunteers in 3 townships was 34%. Reasons for leaving volunteer work were: wanted to be free (70%), needed an income (51%) and got married (49%). About 48% of volunteers sustained for more than one year. Top factors contributing towards the sustainability of community volunteers for TB control covered increasing the incentives (90%), providing an adequate training(81%), providing recreation trips (73%), getting recognition (71%) and providing transportation costs (70%). Some of the respondents stated that there should be an opportunity for their

future career by working as a volunteer. Few pointed out the need to support for medical cost of the volunteers for sickness. The sustainability of community health volunteers was multi-factorial. Driving factors were not only monetary incentives to support their living but also covered other factors such as technical guidance and training, supportive supervision in terms of moral and technical support and recognition of their works which were crucial in maintaining volunteer spirit of community health volunteers in TB control activities.

#### 2.1.2 Assessing Patient satisfaction in Community-based TB care in Myanmar

(Please refer to the Annual Review of Medical Statistics Division)

#### 2.1.3 Assessing Cost-effectiveness of Community based active case finding activities in Myanmar.

(Please refer to the Annual Review of Medical Statistics Division)

### 2.2 HIV/AIDS

#### 2.2.1 Service Delivery Barriers and Accessibility to Harm Reduction Services among PWID in Kachin State, Myanmar (In collaboration with NAP and Clinton Health Access Initiative)

The operations research study elaborated the accessibility to harm reduction services among people who inject drugs (PWID) in Namtee and Hopin townships in Kachin State in 2015-16. The cross-sectional study used qualitative methods. The objectives addressed the identification of: barriers/facilitators in accessing harm reduction services among PWID, the acceptance and utilization of services and provider perspectives on these areas by conducting 4 focus group discussions with PWID, 5 in-depth interviews with positive PWID and 5 key-informant interviews with service providers. Findings indicated that targeted HIV preventive programme led to increased HIV knowledge among the PWID, including the modes of transmission, common misconceptions, and prevention by using clean needle and syringes. Most of the FGD participants received HIV Counseling and Testing (HCT) at Drop-In-Centres (DIC) or NGO clinics/hospitals. Positive drug users in Hopin were more accessible to ART service delivered by NGO clinics, and those in Namtee mostly go to Myitkyina for getting ART from the public sector. Indirect costs associated with accessing ART in Myitkyina were a burden for PWID, and were supported by some NGOs. The practice of sharing needles/syringes was low in study populations, and there was an increased accessibility to needle and syringe programme through DICs or mobile outreach approach. High uptake of HIV testing was observed. The accessibility to HCT was mainly associated with the visits to DICs. Considerably high proportion of PWID was HIV positive and the majority of them were on ART. The linkage of methadone service to HIV prevention services was found. It is important to note that more and more PWID are accessible to Methadone Maintenance Therapy (MMT). Outpost and outreach services promote utilization of services for those PWID who have geographical barriers although limited. The expansion of different options (satellite harm reduction services, collaboration with MMT services) with a package of harm reduction services will be beneficial for those PWIDs who face barriers. Geographical availability of harm reduction services seems not to be proportionate with widespread prevalence of drug use problem and high prevalence of HIV/AIDS among PWID in Kachin State. Therefore, strategies to enhance accessibility to HCT services among the non DIC visitors through outreach and outpost approaches should be strengthened. Advocacy and collaboration among NGOs, CBOs and narcotic task force should be further promoted as legal enforcement is an important factor affecting the accessibility to harm reduction services.

### 3. NON-COMMUNICABLE DISEASES

#### 3.1 Awareness and attitude of married couples on risk of smoking and smokeless tobacco on pregnancy in Lemyethna Township

This is a collaborative research between DMR and Department of Public Health. It aimed to assess awareness and perceived risk towards smoking and smokeless tobacco on pregnancy among married couples who are residing in the rural area. This is a cross-sectional study conducted in Lemyethna Township of Ayeyarwady Region. Data collection was done with 319 participants from Lemyethna Township. Face-to-face interviews were conducted by the trained interviewers through pre-tested structured questionnaire. Among 319, just over half of the participants (54%) reported at least one current smoker in their family. The mean age was  $36.33 \pm 8.15$  among males and  $34.85 \pm 7.20$  among females. More than two-third of the participants (71.2%) had the education level of middle school or below. Most of the participants were farmers (40.1%), hawkers (20.4%) and dependents (18.5%). Nearly half of the participants (43.3%) had family income of 100,000 kyats or lower. Almost all the participants (99.1%) answered that smoking can cause bad outcomes on health. However, only one-third (31.6%) could specifically cited lung cancer. Nearly half (47.3%) answered at least one possible negative pregnancy outcome due to smoking. Nearly all the participants (98.4%) answered betel chewing can cause negative pregnancy outcomes but only one-third (33.5%) answered at least one specifically. More than half (57.7%) of the participants had negative attitude on tobacco use during pregnancy with the mean cut-off point. Among participants, 57.2% of male and 57.5% of female answered well on their perceived risks on using tobacco during pregnancy. Among the participants, 22.88% were current smokers and majority of them were male. Cheroot is the most common type (78.1%) that they used to smoke. More than one-third of them (42.5%) usually smoke inside their home. Nearly half of the participants (48%) were current betel chewers and majority of them were using smokeless tobacco as ingredient of betel chewing. They usually used median of 200 Kyats per day for betel chewing. In conclusion, smoking and betel chewing with smokeless tobacco are rooted in the married couples of rural area and there still need to improve knowledge regarding possible pregnancy outcomes due to smoking and smokeless tobacco.

#### 3.2 Health and social consequences of alcohol drinking and co-occurrence of alcohol related NCDs among male in-patients at Medical Units of Yangon General Hospital (2016)

This is a collaborative research among DMR, Department of Human Resources for Health and Department of Medical Services. The cross-sectional study aimed to identify the reported prevalence of alcohol drinking, alcohol drinking pattern and alcohol dependency was conducted in 2016 among male patients admitted to medical units of Yangon General Hospital (YGH). It also determined common diseases in male drinkers. Face-to-face interviews with 121 male patients and the review of hospital registers to find out their diagnosis were conducted. CAGE test was done to find out alcohol dependency. The age of respondents ranged from 13 years to 93 years (mean age=54years). About 82% were married and 18% were single. About 40% of them had history of their parents drinking alcohol and 72% had friends who drink alcohol. The reported prevalence of drinking alcohol beverages was 0.65(65%) of whom 63(90%) drunk alcohol and 7(10%) drunk beer. About 11(16%) had heavy episodic drinking, 16(20%) had heavy drinking and 52(67%) had binge drinking. About 25(35%) of the male drinkers had experience of withdrawing alcohol. Alcohol dependency was found in 32 drinkers (41%).The most common diagnosis among male drinkers was stroke(34,44%), followed by alcoholic liver disease (8, 9%),ischemic heart

diseases (6, 6.4%) and Tuberculosis (6, 6.4%). This study highlighted that there was a high prevalence of alcohol drinking in male in-patients and majority were admitted for stroke. Therefore, there should be an effective intervention for control of alcohol drinking which could prevent morbidity of NCD. The data collection is still in progress to obtain required sample size of 400.

## SERVICES PROVIDED

### ACADEMIC

Sr.	Name	Responsibilities	Course	
1.	Dr. Saw Saw	Deputy Director	What is Qualitative Study for Master of Public Health, University of Public Health, Yangon	Teaching
			FGD Exercise for Master of Public Health, University of Public Health, Yangon	Teaching
			Lecture for Master of Preventive and Tropical Medicine, University of Medicine Mandalay (25.3.2016-28.3.2016)	Teaching
			External examiner at Health Behaviour and Communication Department, 1 <sup>st</sup> Module Final Examination at University of Public Health, Yangon (29.3.2016-31.3.2016)	External examiner
2.	Dr. Yin Thet Nu Oo	Research Scientist	Research Methodology at MMA (7.5.2016)	Teaching
			External examiner for MPH thesis at University of Public Health (6.12.2016)	External examiner
			“Research Bioethics” at Military Institute of Nursing and Paramedical Sciences (23.10.2016)	Teaching
			Taking informed consent at interviewer training for patient satisfaction survey	Teaching
			MOHS newsletter editorial board member	Editing

## HEALTH SYSTEMS RESEARCH DIVISION (POL)

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	...	Dr. Kyaw Thu MBBS (UMMG)
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	...	Daw Myint Myint Aye BSc (Zoology) (UDE)
	...	Daw Tu Tu Mar BA (Myanmar Sar) (UDE)
Laboratory Attendant	...	U Thura Ko Ko BA (History) (UDE)
	...	Daw Ei Ei Soe

Health Systems Research Division has been actively engaged in conducting research projects in areas of HIV/AIDS, and Reproductive Health during 2016.

### RESEARCH PROJECTS

#### 1. HEALTH POLICY AND HEALTH SYSTEMS RESEARCH

##### 1.1 REPRODUCTIVE HEALTH

###### 1.1.1 Maternal, newborn and child health care practices among mothers from Paletwa township in Southern Chin State, Myanmar

A cross-sectional descriptive study using both quantitative and qualitative methods was conducted at selected villages (nine villages) in Paletwa Township during 2016. Face-to-face interviews with 205 mothers of under-two year old children were done using pre-tested structured questionnaire. Four focus group discussions and 9 in-depth interviews with mothers of under-two year old children, and 18 key informant interviews with health care providers were done. The mean age of mothers was  $28\pm 6$  years, and 58% were in 25-35 year age group. The mean gestational age receiving the first time of antenatal care (ANC) was  $14\pm 8$  weeks. Nearly half of mothers took at least four times of ANC during their last pregnancy. Most frequently mentioned ANC providers for their last pregnancy were Basic Health Staff (BHS) (80%). Most of the mothers delivered their youngest child with normal spontaneous vaginal delivery (95%). The most frequent reason for seeking help from skilled birth attendants (SBA) was "no SBA at village" (30%). There were mothers (~30%) doing wrong practices on taking care of umbilicus of their neonates. Eg. Putting the burnt bamboo ashes. Eighty nine percent of mothers started breastfeeding within 24 hours after birth. The post-natal care (PNC) services received among mothers were mostly "immunization" (45%). The prevalence of contraceptive use was 50% of whom 59% used the injectable method. Thirty five percent of clients did not know the type of immunization that their children had received. Approximately 64% of respondents reported child health care being provided by BHS. Half of the respondents reported that they had ever heard about village health committee (VHC) and there was a system for funding support for the referral of patients to the hospitals. Qualitative results showed the challenges to attain MNCH care services such as poor knowledge among mothers, shortage of basic health staff, difficult in transportation, and improper referral systems. It is recommended to strengthen the number of health assistants and midwives according to the geographical situations and populations of communities. It is also suggested to conduct refresher trainings especially for locally available and functioning



auxiliary midwives (AMW). Community awareness about existence, mechanism and support functions of VHC among the local community members should also be improved.

## **2. COMMUNICABLE DISEASES**

### **2.1 HIV/AIDS**

#### **2.1.1 Contribution and constraints for the involvement of people living with HIV/AIDS in HIV prevention and control activities: A qualitative study at Mandalay Region, 2016**

The GIPA (Greater Involvement of People Living with HIV) policy brief by UNAIDS recommends that PLHIV should involve in national HIV response. It said the involvement of PLHIV in HIV/ AIDS prevention programme development and implementation and policy-making will improve the relevance, acceptability and effectiveness of programmes. The objectives of this study are to assess the contribution of people living with HIV (PLHIV) in HIV prevention and control related activities, and to identify the challenges for the sustainability of their contribution. A cross-sectional qualitative study was conducted at Mandalay City and two townships from Mandalay Region (Pyin Oo Lwin and Myingyan) during 2016. Eight focus group discussions with six to seven PLHIV in each group, eight in-depth interviews with leaders of HIV positive groups, and two key informant interviews with team leaders of AIDS/STI teams, National AIDS Programme were conducted. This study included PLHIV in different characteristics such as outreach workers, peer educators, counselors, field supervisors, volunteers, accountants, assistant project managers, project managers and clients or users. The average age of interviewed PLHIV was 40 years. The ratio of male to female was 1:5. The average years of involvement in HIV/AIDS related activities was 4 years. Generally, there was a strong collaboration between PLHIV groups and AIDS/STI teams at Mandalay Region. The PLHIV were highly supportive especially to the AIDS/STI teams which had limited human resources. It was reported that the achievement of PLHIV involvement could be apparent in condom promotion and distribution to the vulnerable groups, HIV-test counseling, supporting PLHIV from hard-to-reach areas and those PLHIV with poor socio-economic conditions, assisting in ART provision at AIDS/STI teams, home-based care for the HIV positive adult and children, and referring people to get HIV tested and ART treatment. Areas and activities which needed to be focused were also reported. Peer to peer education activities should be emphasized to increase the awareness of self-care and to prevent transmission of HIV to other people. Counseling to married PLHIV regarding family planning also required strengthening. Activities to reduce the discrimination among themselves, within their families, and from the public should also be taken as priorities. The key challenges for the sustainability of their contribution were also identified such as limited resources in terms of basic equipment and facilities especially the location and financial support for the office, the low interest and poor technical knowledge of PLHIV to develop income generation activities, the changing attitudes of PLHIV on their involvement, and uncertain future plans of PLHIV groups. Therefore, it is recommended to consider the key challenges came across by PLHIV groups by NAP in making future plans. The NAP should also find future funding support or allocation of funds for PLHIV groups to implement their activities. NAP should also arrange the comfortable place, room or office for the functioning PLHIV volunteers.