Global policy directions for maternal and child health in the SDG era

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Abstract

In 2015, the sustainable development goals (SDGs) were ratified as the new global agenda for the Millennium Development Goals (MDGs). In this article, we review the progress in maternal and child health achieved during the MDG period and the remaining challenges for the SDG era, and stipulate the policy direction of global maternal and child health by referring to Japan's past experiences in maternal and child health improvement. During the MDG era, a series of systematic review in the academic journal, Lancet, and the results of randomized controlled trials (RCT) conducted in India established evidence-based intervention in the MCH field. Through the SDGs discussions, maternal and child health, which showed delayed progress compared with infectious diseases in the MDG era, drew attention as "unfinished agenda" at the UN level. Reflecting this attention, the "Global strategy for women's, Strategies for children's and adolescents health (2016–2030)" was published. In the strategy, three aims were presented for maternal and child health: survive, thrive, transform. On the other hand, in the SDGs agenda, the universal health coverage (UHC), which simultaneously secures financial resources and an improvement in the quality of services, was proposed and its contribution to maternal and child health expected. However, considering the past experience of Japan in establishing the world's first universal health insurance, the improvement of maternal and child health indicators, including infant mortality rate reduction, started before the introduction of universal insurance coverage achievement. Moreover, we surmise that such activities contributed as outreach and community empowerment by the health workforce including the public health nurses, practicing midwives, and volunteers. As for UHC, it contributed primarily to financial resources for employing human resources such as public health nurses. Consequently, for the improvement of maternal and child health, an evidence-based approach including systematic reviews and RCTs is needed. Additionally, reflecting Japan's experience, we should revisit not only UHC promotion, but also community-level activities such as primary healthcare with volunteer workers.

keywords: Sustainable Development Goals, Universal Health Coverage, Maternal and Child health, Community, Primary Health Care

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I. Introduction

In 2015, the MDGs (Millennium Development Goals) ended with significant "success" in HIV/AIDS control, but several challenges remained, including maternal and child health (MCH). Now, we have entered a new era of Sustainable Development Goals (SDGs). Through the dialogue on the post-MDG agenda for health, several themes appeared, including non-communicable diseases (NCD), universal health coverage (UHC), and MCH. From these discussions, one of UHC's targets was its application to MCH. Given the current global situation, MCH improvement is considered as an important global challenge to be continuously addressed. In this article, we thus review the results of MDGs, the new SDG agenda, and Japan's past experiences in these areas to better stipulate global policy directions from the viewpoint of an MCH agenda.

II. Contribution of MDGs to MCH

During the MDG period, the global health community saw several academic progresses as well as field trial successes in MCH. Specifically, the Lancet played a major role with the publication of several systematic review series, including "Child survival (2003)," "Neonatal survival (2005)," "Born too soon (2012)," and "Every newborn (2014)."

During the MDGs, MDGs 4 (reduce child mortality) and 5 (improve maternal health) were trailing behind the progress of MDG 6 (control of HIV/AIDS, tuberculosis, and other diseases). However, we recognize several progresses in various academic fields, which strengthened the direction of the global health policy, including field activities. In fact, global evidence synthesis first started in 2003 when the Lancet organized a "Child survival" series of articles [1].

In those articles, the global burden of child mortality was disclosed for the first time: over 10.8 million children die each year before their fifth birthday, mainly from preventable causes, including diarrheal, pneumonia, measles, malaria, HIV/AIDS, and the underlying cause of under nutrition, and mortality prevalence was shown to be 41% in sub-Saharan Africa and 34% in South Asia [2]. Although these figures are decreasing, this geographical distribution remains unchanged. Additionally, almost 40% of under-five mortality was due to neonatal problems. In short, this series verified the major cause of the under-five mortality as infectious diseases and listed several effective intervention measures, including breastfeeding, insecticide treated materials, and vaccines [2].

In 2005, the Lancet also published "Neonatal survival series," disclosed world's situation of neonatal deaths.

The major cause of death was asphyxia and prematurity [3]. Since they were far from infectious diseases, the global health community advised that specific newborn care should be considered, which are different from the effective interventions for under-five mortality reduction. Consequently, MCH was transformed to maternal, newborn and child health (MNCH) [4].

In the same year, the Journal of Perinatology published a series of articles on a trial in Gadchiroli, a deprived area in India. Through the "home-based neonatal care approach," which taught how to treat sick babies using several training materials, illiterate volunteers, including mothers, conducted treatments such as neonatal resuscitation and sepsis treatment as appropriate, achieving almost 70% neonatal mortality reduction within the 10 years of trial [5,6]. This outcome had an impact on global health communities, and its strategy was adapted to UNICEF's Africa strategy. Since this trial was conducted as a randomized control trial (RCT), RCTs became popular in MNCH, especially in Africa. The outcomes of the Gadchiroli trial are supported by several systematic reviews, including the Cochrane ones [7].

Reflecting these outcomes, the global health community agrees the importance of including mothers in improving neonatal survival rates.

In response to these evidences and discussions, the Partnership of Maternal, Newborn and Child Health (PMNCH, http://www.who.int/pmnch/en/) was established with hundreds of stakeholders, including governments of both developed and developing countries, UN agencies such as UNICEF and the World Health Organization (WHO), private foundations such as the Bill and Melinda Gates Foundation, and civil society measures such as the NGO "Save the Children." One of the important attainments of PMNCH was the establishment of "Continuum of Care" concept, which advocates continuous care for women and babies from the viewpoint of time (pregnancy-delivery-postnatal care/newborn-infancy-adolescent) and place (home-community-medical facilities), thus becoming the main framework of MCH policies and community activities. Due to the "Continuum of Care," there emerged discussions that support the concept of MNCH, while RMNCAH (reproductive, maternal, newborn, child, and adolescent health) was subsequently introduced considering the upstream of the causal relationships of "reproductive health" in relation to nutrition, family planning, and safe abortion, and "adolescent health" in relation to sexual education, adolescent pregnancies, and young mental health as part of a lifelong continuous care.

As an intervention model, a method called BP/CR (birth preparedness/complication readiness) was developed...
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by JHPIEGO (Johns Hopkins Program for International Education in Gynecology and Obstetrics) to ensure the safety of home delivery. For BP/CR, successful outcomes were reported mainly from Africa. A systematic review of this method has been conducted and proven to be effective in reducing maternal and newborn mortality [8].

In September 2010, the "Every Woman, Every Child" movement (http://www.everywomaneverychild.org/) was called for and established by the UN Secretary-General Ban Ki-moon during the United Nations Millennium Development Goals Summit, with a multi-stakeholder approach, including governments, private sector, and civil societies. Its objective was to put an end to the preventable deaths of women, children, and adolescents within a generation.

As for the commitment of the Government of Japan for MNCH, the Ministry of Foreign Affairs upgraded the so-called New International Health Policy in 2011. This policy was also published in the Lancet under the "Foreign Minister of the day" [9]. Based on this international health policy, the EMBRACE (Ensure Mothers and Babies' Regular Access to Care) model, which is a wide policy support package to improve the environment for continuum of care, has been proposed [10]. JICA took part as a main body, developed projects in Ghana, the outcomes being gradually published. Overall, academics in global health gradually focused on neonatal health.

In 2012, the Lancet series "Born too soon" raised awareness on the importance of premature births in collaboration with WHO [11]. The Lancet also dealt with stillbirth in the "Every newborn" series in 2014 [12,13]. Subsequently, with the recognition that newborn survival has lagged behind maternal and under-five survival, the global action plan "Every Newborn: An Action Plan to End Preventable Deaths" (ENAP) was published in 2014 [14]. In 2015, with the purpose of eliminating significant inequities that lead to disparities in access, quality, and outcomes of care within and between countries, "Strategies for Ending Preventable Maternal Mortality" (EPMM) called for positive political commitments and financial investments by governments and development partners [15].

In 2015, when the MDGs were about to end, there emerged the term "Unfinished Business/Unfinished Agenda" [16,17], and MNCH became again a focal point.

A major issue in global health is undernutrition. The relation between infant mortality and undernutrition has been pointed out in the Lancet's child survival series [2] and reiterated in the MDGs report in 2014 [18]. The challenge of nutrition has long been a global issue, ever since the adoption of the World Nutrition Declaration at the FAO/WHO Joint Nutrition Conference in 1992.

Thereafter, there was also a movement to set the goal of "Reducing the proportion of the population suffering from hunger to half of the 1990 level by 2015" in MDG 1 and "Eradication of extreme poverty and hunger." However, drastic countermeasures have not been taken. In 2008, due to the publication of the Lancet series of "Maternal and child undernutrition" [19], several international conferences dealing with nutrition were held. In 2010, the World Bank report "Scaling Up Nutrition, What Will It Cost?" pointed out that investment in nutrition by the global community has been significantly different from infectious diseases such as HIV/AIDS [20], thus drawing global attention to nutrition. Additionally, the movement "1,000 Days Partnership" globally advocated that the total of around 1,000 days from the gestation period to two years of age is particularly important, on the basis of the theory of DOHaD by Dr. David Barker [21,22]. Based on this advocacy concept, the SUN (Scale Up Nutrition) framework was established. In this framework, 13 cost-effective interventions were recommended [23]. As for Japan, the government financially contributed to the initial establishment of the SUN in cooperation with the World Bank. The global discussion on nutrition was again evoked by the Lancet series "Maternal and Child Nutrition" that included not only undernutrition but also overweight concerns. This series reiterated the importance of NCDs in global health [24]. Additionally, the importance of a wide range of stakeholders beyond the health sector was emphasized for roles such as government sectors, civil society, donor organizations, and private enterprises [25].

III. SDG era and MCH

Various discussions exist on the post-2015 development agenda reflecting the MDGs as unfinished. Among them, the government of Japan emphasized three points: 1) MDGs brought a certain outcome despite many unsolved challenges, 2) global societies should address new issues while continuing to address the remaining issues, and 3) a new agenda should be elaborated based on the current MDGs, with respect for the experiences and lessons learned. Meanwhile, the SDGs were proposed and considered as the new agenda by the United Nations Sustainable Development Conference (Rio + 20), being welcomed as the next major global agenda. However, of the 17 initiatives to be addressed, only SDG 3 “Securing healthy living for all people of all ages, promoting well-being” represented challenges in the health and medical fields. Other goals that can be related to health included SDG 2 "End of hunger, achievement of food security and improvement of nutrition, promotion of sustainable

agriculture,” SDG 6 “Sustainable water resources and Securing water and sanitation,” etc. In September 2015, the SDGs were ratified and announced as the agenda to follow the MDGs by the UN General Assembly. Therefore, the viewpoint of “sustainability” was globally recognized as a common approach. Additionally, the Government of Japan and WHO advocated UHC as a core agenda of the SDGs. According to the WHO definition, UHC is “a state where everyone can receive healthcare services such as appropriate preventive, therapeutic, rehabilitation, etc. at the cost that can be paid when necessary.” Therefore, it is a formal follower of the concept of primary healthcare (PHC). As the interest in UHC increases, Japan that has been achieved and maintained universal health insurance over 50 years was also rising. Finally, the SDGs, launched in 2016 with 17 goals and 169 targets, within which MCH targets include 1) reduction of the global maternal mortality ratio to less than 70 per 100,000 live births; 2) ending preventable deaths with neonatal mortality at least as low as 12 per 1,000 live births; and 3) ensuring universal access to sexual and reproductive health-care services, including for family planning, and education, and the integration of reproductive health into national strategies and programs, all by 2030 [26].

As for the SDG target of MCH, the “Global strategy for women’s, children’s, and adolescents’ health (2016–2030)” was published by “Every Woman, Every Child” in 2015, reflecting the attention for global health communities [27].

This strategy presented a roadmap for ending all preventable deaths of women, children, and adolescents within a generation. It presented three overarching objectives: survive (end preventable deaths related to MCH and infectious diseases), thrive (ensure health and well-being including nutrition and sexual/reproductive health services), and transform (expand enabling environments including eradication of poverty, access to education, and birth registration). This new strategy emphasizes adolescents’ health, with the recognition of how their involvement contributes to the health and nutrition of women, children, and adolescents themselves through better educational attainments, workforce participation, and social enrollment. In other words, a multi-stakeholder approach was emphasized. This also stresses the importance of fragile states and humanitarian settings, because 60% of maternal deaths, 53% of child deaths, and 45% of newborn deaths occur in such situations.

IV. UHC as a global agenda

Nowadays, UHC’s relation to several global challenges including aging [28], NCDs [29,30], and MCH [31] has been emphasized. However, as Kieny pointed out, there exists no one-size-fits-all approach for achieving UHC [32]. For example, misperceptions exist in Japan’s experiences on the health improvement, since Japan is the world’s first country to achieve universal health insurance in 1961. One of these misperceptions is “Japan’s rapid increase of life expectancy owes much to the UHC.” Additionally, several articles point out positive correlations between income level and mortality in Japan. However, whether economic growth explains mortality completely is still debatable [33,34]. In an ecological time-series study, Sugiuira et al. pointed out that not only medical factors but also non-medical factors, including education, community-based activities such as rural improvement movement activities [35], and legislation contribute positively to life expectancy extension [36]. Another misperception is “Japan’s infant mortality rate reduction has been achieved with introduction of UHC.” This is also a false perception. As Fig. 1 shows, Japan’s rapid IMR reduction started before World War II. Based on our literature review [37], which explored Japan’s past policy and community activities, the determinants of IMR reduction can be 1) policy commitment by the central government or 2) synergy effect of community activities of professional workers, including public health nurses, practicing midwives, the livelihood extension workers deployed for rural livelihood improvement, and volunteers. Additionally, health insurance was already introduced in Japan in the 1920s–1930s, before achieving universal health insurance, which made it possible to pool the funds for employing health professionals, especially public health nurses. All workers conducted outreach activities for the community and collected the facts of the community, which were then transformed into evidence through multi-

Data Source: e-stat, Japan https://www.e-stat.go.jp/

Fig. 1: Historical trends of Infant Mortality Rate in Japan
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stakeholder discussion in the community [38,39]. We surmise that the contribution of universal health insurance was: 1) financial back up for employment and maintenance of public health nurses and 2) accessibility improvement to medical care in line with the rapid economic growth.

Hereafter, based on the discussion above and reflecting the current situation, we focus on the human resources required for health development.

V. Human resource development for sustainable maternal and child health care

As previously mentioned, MCH in global health is definitely transforming. On one hand, we should pursue evidence-based public healthcare considering the evidence from communities, while, on the other hand, we should implement PDCA cycles based on grasping current situation, policy/strategy planning, on-the-job implementation with community activity facilitation, and effectiveness evaluation and from the viewpoint of competent health professional workers at community level. As pointed out, overcoming the scarcity of human resources is crucial for service expansion [40]. For resolving this bottleneck, PHC and volunteer utilization should be reconsidered, such as in Thailand [41]. Japan’s past experiences of the community participation of AIKU volunteers [38,42] and the field success in India supports this concept [5]. Their common ground was well-organized training and high quality of activities of the workers in the community.

VI. Conclusion

We reviewed the policy and research directions from the MDG period to the SDG period. We also identified the transformation from the concept of MCH to RMNCAH.

RMNCAH services are now gradually reinforced with strong evidences, including RCT trials and systematic reviews.

As an SDG agenda, expanding financial protection coverage may contribute to increased availability of RMNCAH services, but UHC may not be achievable without competent healthcare providers. Reflecting from Japan’s experiences, if effectively designed, the financial protection scheme will have the potential to retain sufficient human resources.

To achieve wider coverage of high-quality RMNCAH services to communities, we should revisit volunteer utilization, as well as health professionals with high quality of activities in PHC.

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SDG 時代の母子保健の世界的政策方向性

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抄録

2015年、それまでの世界的なアジェンダである「ミレニアム開発目標（MDGs: Millennium Development Goals）」が終焉を迎え、新たなアジェンダとして「持続可能な開発目標（SDGs: Sustainable Development Goals）」が国連総会において批准された。本論文では、MDGs時代に母子保健分野が成し遂げた進捗とSDG時代の課題を概観し、日本の過去の母子保健の経験を参照しつつ、世界的な母子保健の方向性を検討することを試みた。

MDGs時代に、学術誌Lancetの一連のSystematic Reviewの成果、およびインドからの無作為化比較試験（RCT: Randomized Controlled Trial）の成果等が反映され、エビデンスに基づいた介入の必要性が提言されるに至った。一方で、MDGsの感染症対策等と比べて進捗が遅れ気味であった母子保健は、SDGs時代には「残された課題」として国連レベルで議論されるようになり、「Global strategy for women’s, children’s and adolescents’ health (2016-2030)」なる戦略書が出版された。この戦略書においては、母子保健分野の3つの目的として、Survive（生存）、Thrive（健全な成長）、Transform（社会の転換）が提示された。また、SDGsにおいては、サービス財源の確保と、サービスの質向上を同時に志向する「ユニバーサルヘルスカバレッジ（UHC: Universal Health Coverage）」の実現も提唱され、母子保健への寄与が期待された。しかし、世界で最も早く国民皆保険を実現した日本の経験によれば、国民皆保険導入以前より乳児死亡率等の母子保健指標の改善が始まており、その改善の背景には保健師、開業助産師によるアウトリーチ活動を始めとするコミュニティ・レベルでの活動が寄与していた。国民皆保険は、保健師の雇用財源に関して主として寄与した。これらの背景を踏まえて、SDG時代の母子保健では、エビデンスに基づいた母子保健対策が必要となる。また、日本の経験を反映して、UHCの推進だけではなく、プライマリ・ヘルス・ケア（Primary Health Care）に代表されるコミュニティ・レベルでの活動とボランティアの活用も見直すべきである。

キーワード：持続的な開発目標、ユニバーサル・ヘルス・カバレッジ、母子保健、コミュニティ、プライマリ・ヘルス・ケア