Perspectives of under-Staffed hospitals with a special focus on maternal mortalities in India & counter management strategies – Review article

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Abstract
India has made many advancements in the health care system hitherto, we can find crop up in Maternal and Neo natal morbidity and mortality and other drawbacks. The Inference for this can be frivolously infrastructure inadequacy or non-commitment but more intense exploration acknowledges the understaffing of the institutions. One of the determining factors for compromised patient care, low efficiency at provider's end, lack of accountability and ethics is under-staffing and non-filling up of vacancies in the Govt. Hospitals. Thus, this article gives a Perspective on effects resulting from lack of human resources and some strategies to overcome.

Keywords: Understaffed hospitals, Health policy research, Maternal mortality, Compromised patient care, Lack of human resource, AYUSH.

Introduction
The habitual occurrence of neonatal and maternal deaths in our country has created many havocs and it may still happen. There are also concerns with doctor-patient relationships, non-ethical practices and fulfilling patient's anticipations. In a developing country like India there is a constant Global pressure to attain the Public Health Goals prescribed in Sustainable Development Goals (SDG) in connection with this, one of our Nation's Flagship Programme known as National Rural Health Mission (presently, National Health Mission) started in 2005, is striving hard to promote institutional deliveries but on the contrary, there are deaths happening in the hospital itself. This might sound like there are problems with the infrastructure of hospitals and a serious lack of accountability since it is a Government establishment. But when exploring deeply there are other hidden facts underpinned with the evident incidents which we cannot perceive it superficially. Differences prevailing in fertility level between sub-regions (districts) has been captured by the census of India, in their survey. Tamil Nadu achieved low fertility rates in short window of time along with concerns like varying fertility rates inter district.

The development of Health Care system was at its peak during the 1970s relocating the center of focus upon Maternal and Neo-Natal deaths by giving significance to primary level care trickling down with the help of health sub-centers even in the remote villages of India manned by ANM's (Auxiliary Mid-Wife). The hierarchy of health system establishments also has a robust inbuilt reporting mechanism which can facilitate a good level of communication. The recent happening of providing laptops to the Village Health Nurses (VHN's) in Tamil Nadu was thought to be a milestone in reporting and communication perspective and these Grassroot level workers being embraced by the Government which can be considered as a landmark achievement in the era of communication and real-time data for better planning & management. With such a System in place, still sometimes it results in some untoward happenings which we cannot displace those issues as a trivial one because the problem is lying more towards lack of human resource which adds to the already existing Professional burden, Difficulties in using the latest communication devices by VHN's and Deficit in Professional Ethics.[1] Giving thoughts on National Population Policy of India which got released in 2000 has extensively spoken about decentralisation of maternal services, multi-sectoral approach, making available of all types of contraceptives and involving local Governments (Panchayat, Municipality, Corporation) to provide efficient coverage.

Higher Order Parity Births in the Community
Lack of awareness is a major threat in many developing countries especially in countries like India where population is high and its practically difficult to measure the awareness rate due to vast social and cultural differences, our culture supports male child nepotism and not aware of contraceptives or its usage, unscientific planning of birth spacing are the factors came up for higher order parity births (HOBs) leading to maternal mortality still, mothers residing in rural and underdeveloped areas lack awareness on maternal health services such as contraception's utilization due to lack of human resource and IEC (Information, Education and Communication). When diving deep into customs, the reason for HOBs is Sociocultural reasons even though the Mother is educated, this kind of scenario is common in India because, the fertility decisions are taken early and many times by others and this is purely due to lack of awareness and prejudiced ideas for which IEC is significant. Poverty is a domain to concentrate when dealing HOBs and its reasons because people living below poverty line (BPL) are prejudiced to have more children because they see their offspring as a human resource to make more income for the family in this process the mother is forced to

give birth to more children and it leads to maternal morbidity and mortality.

The international commitment is also considered when studying about fertility or Higher Order Births, the new Sustainable Development Goals (SDG) which came as a successor of Millennium Development Goals (MDG) in the year 2015. The 3rd SDG goal and 7th subgoal talks about universal access to sexual and reproductive health services for the community. National Family Health Survey (NFHS), the biggest survey done in our country at regular intervals which comprehensively covers variables like IMR, MMR, TFR, HIV trends and so on. Till now three rounds have been completed, latest round (third round) occurred in 2005-2006. The collected data pave the way to find many intuitive indicators like Total Fertility Rate (TFR) which has been constantly declining 3.2, 2.9 and 2.4 in NFHS – 1, NFHS – 2 and NFHS – 3 respectively. But at the same time, the survey has captured the interstate and intrastate differences prevailing with respect to TFR.

National Family Planning Program which was introduced in 1956 pioneering globally to have scheme for population and fertility control. In 1977 the same was renamed as National Family Welfare Program (NFWP) diverting the scheme from the traditional target-based approach. Since then there is a variety of contraception being offered to the public such as sterilisation surgeries (tubectomy) for women and men (vasectomy) which are a permanent type of contraceptives. Further, NFWP has given orders to add injectable contraceptive called Antara and a new pill known as Chhaya in all Govt. hospitals. For all this to get implemented effectively adequate Human Resource should be ensured so that all the new programs introduced by the Govt. will not become additional burden to the staffs currently working and Maternal Health will be up-held.

Public Health System in India

Now, let us see the practical difficulties experienced by the Health workers at various levels of Public Health System. Our Public Health set up starts from Health Sub centres at grass root level located nearly in all the villages, Govt. of India has decided to convert all the sub centres in Health and Wellness Centres (HWCs) in near future so that more services are made available to people due to its strong presence in every nook and corner of our country, next higher institution is Primary Health Centre, next higher level will be Community Health Centres and sitting at the top of this hierarchy is Medical colleges. Since, Medical colleges are not coming under Public Health domain directly because they are governed by Dept. of Medical Education and all the essential resources are by and large present, this review will concentrate on first three institutions and some bottlenecks related with under staffing and how it affects the service delivery and quality.

Health Sub-Centres (HSC's)

The community will see the health sub-centers as the face of entire public health system because of its presence in every nook and corner of the country despite they are overburdened due to disproportionate HSC's & its respective catchment population. Also, it becomes important to have adequate staffing in the existing HSC's since people will approach the sub-center for minor ailments and to design a plan for high-risk deliveries requiring referrals to secondary or tertiary care. NRHM envisages to provide additionally 200,000 ANM's but these places are still vacant and every sub-center must have one male health worker and it is found to be more than 50% vacant. [2] Thus existing ANM's have to look after other areas also due to the vacancy which gives additional burden on maintaining records and immunization coverage which is often expressed by bureaucrats as low efficiency of the worker, poor maintenance of records, increasing number of dropouts from immunisation etc.

Primary Health Care Centres (PHC's)

Poor people, those who live below the poverty line often associated with some chronic lifestyle diseases cannot pursue a planned and good treatment especially in a developing country like ours even though, there is a wide stretch of P.H.C's meeting the guidelines at Infrastructure level alone and lacking in Human Resources with adequate skills.[3] For example, an understaffed P.H.C cannot serve the patients efficiently so maternal deaths and near-miss happens, eventually leading to mundane practices at the cost of human values and professional ethics which makes way to a 'Compromised Patient Care' for those who are in real need.[4] Despite the Government's efforts of upgrading some PHC's into 24x7 Upgraded PHC's exclusively to conduct Deliveries and related Emergencies still with in-built concepts of CEmONC (Comprehensive Emergency Obstetric and new born care) and BEmONC (Basic Emergency Obstetric and new born care) centres, mortalities of Mothers and Neonates take place with significant magnitude.

Community Health Care Centres (CHC's)

These are hospitals located at the block level and they have been converted into First Referral Units (FRU's) meaning, after getting a seriously ill or high risk patients/mothers in PHCs, Doctors will take utmost care to stabilise the patient/mother and refer them to these FRUs with haste, for conducting high-risk deliveries, new-natal emergency care (E.g. NICU) and other major ailments. This is because some of the specialists like gynecologists, pediatricians, surgeons etc, will be stationed in a CHC to provide tertiary care and manage critical situations. But there are shortfalls of staffing at this level too; a study conducted in the year 2011 has revealed that 43% of medical providers are lacking in CHC's, with such a magnitude it is clearly comprehensible that the treatment would be compromised the majority of the times in spite of having all the equipment available. [5-6] This is due to the huge doctor-patient ratio gaps in India which is a universal phenomenon across the states. This makes the CHC's to over-work and making lesser time for following the protocols/guidelines and standard operating procedures (SOP's).

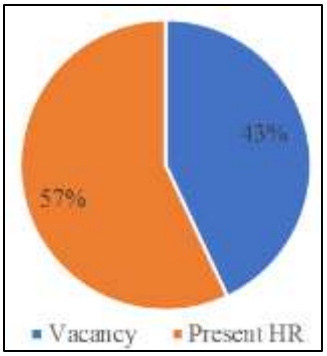

Fig. 1: Pie – chart depicting the Medical Doctors vacancies at CHC's

Bottlenecks Correlated with Under Staffing

Due to the overload of work, physicians tend to act in a speedy manner, so there is no room for good doctor-patient relationship and ample time for understanding the patient's feeling and disease which will bring no trust on the doctor. A study done by Vijay et al in 2013 on determining the factors for building trust on a doctor by the patient in resource-poor settings has shown that the treatment provider should get involved with the patient personally.[7] To get involved with the patients definitely time plays an important role in building trust upon doctors. This might lead to people's aggression on public health systems because people tend to over-perceive the 'Compromised Patient Care' which is the only evident part since it will be brought to light by media and social websites and serves as a determinant for grievance against even a conscientious clinician.

Because of understaffing of nurses many hospitals experience adverse patient outcome substantiating this, a study done in the year 2003 has said that, adding even one patient for a nurse after her fixed workload can contribute an addition of 7% in mortality rates. Many researchers have proved the link between the patient outcomes and nursing. [8]

Another significant problem faced by the understaffed public hospitals is poor infection control because of more visitors to the hospital, due to a deficiency in manpower there is a lesser chance for developing the Infection Control Programme which is sustainable and meeting the indicators to avoid serious infection spread to Mothers. [9-10] This also comprises of sanitary workers and multipurpose workers for maintenance of some important infection control points like toilets, scrub sink, overhead tanks, autoclaves etc are at stake. In public health set up it is common to see burn and trauma units which have a higher possibility of spreading Nosocomial infections, with no optimal human resource it is difficult to set up a sentinel surveillance mechanism.[11]

It is noted that in earlier 1970's hospitals were lacking even the basic infrastructure required to treat a pre-matured baby with incubator so, a method known as 'Kangaroo Mother Care' (KMC) which was a simple but effective strategy yielding good results medically and served as a gesture to earn emotional attachment between the infant and mother. This technique was discovered by Dr. Edgar Rey who belongs to Colombia. Here it becomes highly important to know that KMC is a practice followed largely in low-income countries and it is a rare occurrence in high-income countries. [12] This reveals us the truth, that KMC was discovered for the Institutions having poor staffing and non-adequate infrastructure to take care of a pre-term baby who is clinically stable and mother is held responsible. It should rather be like good infrastructure presence to treat a newborn infant who's in desperate need of medical attention coupled with KMC to strengthen the emotional under-current between the mother and child. This can prove to be a holistic approach to post-partum care.

In the present Digital world collection of data and compilation of data from hospital records plays a key role for doing any Research works for identifying problems, Decision making based on the identified problem, performing trend analysis, and Creation of future strategies along with its Means and Ends. But some developing countries lack in human resource and task-specific infrastructure resulting in non-robustness of collected data and becomes increasingly unreliable for taking administrative decisions. [13] When Geriatric care is considered injury-surveillance is inevitable because injuries will be the leading cause of morbidity and mortality in Geriatric Community. So, strengthening of robust data compilation and surveillance systems must be a part of our Public Health set up. [14]

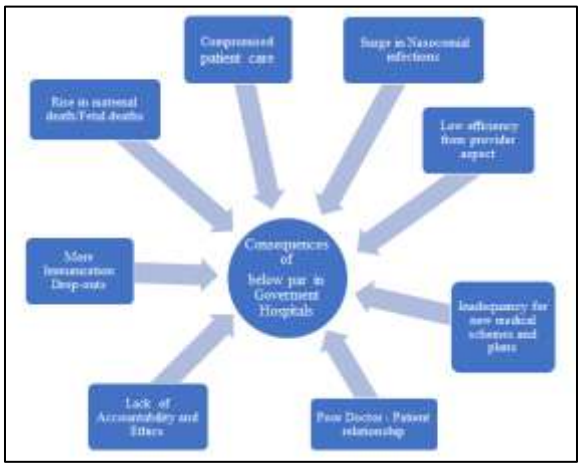

Fig. 2: Conceptual Framework of Understaffing

Government's concern of improving the healthcare system in our country is explicitly revealed by announcing new schemes, insurance policies, coverages etc. But central Government should improve the resource allocation in the financial statement (Budget) with respect to Health domain so that divulging fund inflow will improve at the operational level.[15-16] But our budget is always a deficient budget which is a normal occurrence for any developing country, so there will be some budget constraints which can be solved through inter-country trades in the health sector. The Government has given impetus to country's manufacturing sector which is commonly known as 'MAKE IN INDIA' campaign which relies on our Population's workforce so

providing quality care for sick workers will maintain our country's human capital thereby reducing notional loss. A review conducted in the year 2006 has explored that a Trade policy in Health sector has been developed through dynamic improvements in information technology in ASEAN regions (Association of South Eastern Asian Nations) and they have started opening their trade routes in health sectors because it will definitely improve Medical tourism and thereby country's friendly and strategic ties with other neighboring countries. [17] But our country is still lacking in exploring new generation ideas to modernize our Public Health systems.

Conclusion

So being a well-fare Government, it must explore innovative ways for expeditious vacancy filling in the public health system and a foolproof mechanism for getting feedback from the grass-root levels of health systems coupled with appreciation and recognition for fruitful dispensing of duties which might act as an incentive and hygiene factor for a health worker apart from descent remuneration. [18] For Physicians and Surgeons refresher training on recent clinical updates along with sessions on ethics should find a place in Government services. It must be conducted in a systematic fashion which ascertains their clinical knowledge, performance and imbibes ethical values in day to day clinical practice.

Also, the role of Paramedical staffs is underplayed in India, the rational use of Physiotherapy, Occupational Therapy & other professionals is less. When given equal opportunities and rights, patient care can be given in a holistic manner as a team of professionals. Also, the Government has laid emphasis on AYUSH system of medicine which has a separate ministry which can be of greater use when a Policy is put in place properly. AYUSH can play a major role in combating primary illness which shall reduce the burden of existing medical staffs in a cost-effective manner when compared to allopathic physicians. [19] The supply side determinants such as hospital availability, family welfare services and adequate health staffs to take care of unmet needs of the community. A research in 2014 from India has reported that fertility rates and number of deliveries conducted in a Primary health centre (PHC) are correlated positively, this helps us to understand that a well-equipped PHC improves the fertility due to affordable as well as accessible maternal health services. This might be an outcome of people's trust because this study has shown that good obstetric care, availability of all medicines, unceasing power supply, and even communication facilities came up as predictors for the volume of delivery.[20]

The example can be taken from the experience of a Dengue outbreak which paved way for a Siddha medicine 'Nilavembu' (Andrographis paniculate) decoction which is prepared from a certain type of neem tree. It was found that it can be used to prevent as a well treat Dengue and other illness. It came as Government Order in Tamil Nadu that people getting treatment even in private hospitals should be given the 'Nilavembu' decoction as a treatment strategy. Research in this Indian system of medicine can be path-breaking for providing better treatment for many ailments at primary and secondary stages of therapy at a lower cost.

Since the Public Health professionals in the country has various background ranging from Medical Professionals, Nurses and also Engineers, a comprehensive policy to comprise everyone in the Government system for a holistic care that could help the huge population of our Country and Government can come forward with an ideology of having separate Medical and Non-Medical Public Health Cadre so that best of both brains can work together in combating the Public Health threats and providing a world-class care for patients.

Conflict of Interest: None.

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How to cite this article: Ibrahim T, Muralikrishnan N. Perspectives of under-Staffed hospitals with a special focus on maternal mortalities in India & counter management strategies – Review article. *J Prev Med Holistic Health* 2019;5(1):65-9.