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RESEARCH ARTICLE

DEPLOYMENT OF MATERNAL HEALTHCARE SERVICES AT PUBLIC HOSPITALS IN PAKISTAN: A GLOBAL PERSPECTIVE

^{1,*}Adeela Rehman and ²Nurazzura Mohamad Diah

¹PhD Student, Department of Sociology & Anthropology KIRKHS, International Islamic University, Malaysia

²Associate Professor, Department of Sociology & Anthropology KIRKHS,
International Islamic University, Malaysia

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ABSTRACT

Women's health status in many parts of the world is influenced by the care women acquired during her motherhood time period. This paper comprised the reviews of existing literature encompasses of maternal healthcare services in public hospitals, its efficacy, quality and user's satisfaction. Access to healthcare services is the fundamental right of every individual in any democratic state which resulted in state's responsibility to provide ample care to all. Therefore, it is significant to examine how public hospital manages to provide quality and timely care to mother and newborns. The state's run health systems are built with the intention to fulfill the rights and healthcare needs of each and every citizen at government expense. Among all, mother and newborn health is important consideration which needs to be given special attention. To organize efficient care structure for maternal health needs in developing countries is one of the biggest challenges due to limited resources.

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INTRODUCTION

Maternal healthcare is imperative for better antenatal, natal and postnatal health outcomes for both the mother and child. The experience of motherhood seems to be pleasant; therefore the process is at this time more medicalized under health institutions. Conversely, due to various reasons mothers are end up with unpleasant feelings with the services delivered by the healthcare delivery system. The maternal and newborn mortality and morbidity is although controlled through institutionalized delivery but not achieve the significant level to mark the progress. Despite the government initiatives and international organization's donations, the unsatisfactory experiences of mothers with the public health services are a challenge to explore the cause of this dissatisfaction. Globally, it is estimated that half a million women die every year due to pregnancy related complications. In developing countries, deaths due to labour complications and lack of maternity care are the leading factors of maternal mortality. Particularly in Africa, Asia and Latin America, many women die during labour because they lack timely access to healthcare services and sometime the unavailability of services at hospitals (Desai, 2003; Ali, Hotta, Kuroiwa, & Ushijima, 2005). More than 50% of global maternal deaths in 2008 occurred in six countries namely India, Nigeria, Pakistan, Afghanistan, Ethiopia and the

Democratic Republic of Congo (Hogan *et al.*, 2010). To reduce the mortality rates, public health services needs to be upgraded according to the needs of the population. Healthcare services with respect to mothers' and newborns' health is an important aspect in the study of social structure of health systems. Number of studies has suggested that the provision of eminence healthcare is dependent on the structure of the system as well as the process performed to achieve the outcomes. The socio-economic structure of healthcare delivery, availability of technology and drugs, and their affordability are the major factors to measure the healthcare services. Despite the paramount accomplishments in developing strategies to improve healthcare services for mothers and newborns, mortality and morbidity rates are not declining at a high pace particularly in developing countries. According to Save the Children (2015) an estimate of 17,000 children dies within first year of life. WHO (2014) further asserted that the child mortality rate in developing countries is 29 times higher than the industrialized countries. The global estimate of child mortality also indicates that about four million neonates die each year due to inefficient services available to them. One of the reasons for maternal and newborn increasing death ratio is impediment in provision and access to healthcare services. Although the instant factors of maternal and newborn death may differ according to socio-economic and cultural differences, the underlying causes of these deaths may be very similar. One of these causes consists of the inability to access maternal and newborn healthcare services, especially at the time of delivery.

*Corresponding author: Adeela Rehman,

PhD Student, Department of Sociology & Anthropology KIRKHS,
International Islamic University, Malaysia.

The inability of the timely provision of equipped and eminent services has resulted in complications for the newborn baby. To improve the condition of maternal and newborn health, it is necessary that healthcare services must be equipped with advanced technology and ample care services that help to provide efficient care to the patients. Based on the declaration of Alma Ata¹ in 1978, the healthcare systems are under pressure towards the accomplishment of healthier and equitable health services for all (Ivbijaro, Kolkiewicz, Cohen, & Fellow, 2008). To fulfill the health needs of the population, the hospital is a major social institution which provides healthcare services to the society. The hospital is a place where illness and diseases are cured through medical treatment that rehabilitates the health and well-being of such people. Many health professionals provide medical expertise to regulate the process of provision of health services to the people who visit the hospitals (Goel, 1984). This study focuses on the healthcare services provided by public hospitals to mothers and newborns. In each hospital there is a separate and special unit for the maternal needs of women as mothers while newborns need special attention and competent care too. Therefore, the sufficient provision and quality of healthcare services for maternal care is required to be studied. The contemptible quality of healthcare services is intimately associated to the maternal and infant mortality rate (Dibaba, Fantahun, & Hindin, 2013). Punjani *et al.* (2014) also emphasized on monitoring and evaluation to assess quality of care as an important indicator to improve health outcomes.

Overview of Maternal Healthcare Services in Pakistan

Pakistan is the world second largest Muslim nation and the only country established in the name of Islam.² The literal meaning of Pakistan is “land of pure” came into existence on 1947 as a homeland for subcontinent Muslims. On the world map, it is located on Southern Asia bordering the Arabian Sea. India on its east, Iran and Afghanistan on the west and China in the North make the country a central place to Asia. Based on the Islamic ideology, the culture of Pakistan reflects the Islamic convention in each and every aspect of life. The Pakistani culture is the amalgamation of diversity, unity, simplicity, compact conviction and dignified value and beliefs. The family system of Pakistan is male dominated with strong patriarchal observance of leading the family. The male members are the soul earner of the family. The World Factbook, South Asia: Pakistan (2017) illustrated the total geographical area of Pakistan is 201,995.540 Esq. comprises of four provinces, one federal administrative area and capital of the country. The capital of Pakistan is Islamabad, situated at the north side of Potohar Plateau³ surrounded with Margalla Hills. The ancient city of Rawalpindi is side by side due to which the area known as twin cities comprises of Rawalpindi and Islamabad due to no exact boundaries between the two cities (Mohiuddin, 2007).

¹The Alma-Ata Declaration of 1978 emerged as a major milestone of the 20th century in the field of public health, and it identified primary healthcare as the key to the attainment of the goal of Health for All.

²“Pakistan is unique among Muslim countries in its relationship with Islam: it is the only country to have been established in the name of Islam” (Rizwan Hussain, 2001).

³ Potohar Plateau is located in north-eastern Pakistan, lying between the Indus and Jehlum rivers. Hazara Hills is situated at its north and bounded with salt range on the south.

A meticulously planned city is the fastest growing city in terms of population, economy and urban development. Women in Pakistan are generally perceived as one of the systematic gender subordination but it varies from class, region, tribes, rural/urban division and socio-economic status (Bari, 2000). Although, today’s women in Pakistan have better status and position than the past, but still struggling for their better status and position in various field of life. Such as the health situation for women in Pakistan is not much esteemed (UNICEF, 2013). The women access to healthcare services is still low in rural areas of Pakistan as compare to urban location. Despite women access to healthcare service in cities, the health status is lower due to underutilization of healthcare services at public hospitals such as lack of technology, lack of financial and human resources etc (Ahmed, 2014).

In Pakistan, the public sector provides health services at three levels i.e. primary which includes 5,334 Basic Health Units (BHUs) and 560 Rural Health Centers (RHCs), 4,712 secondary level services that constitute *Tehsil* (town) level which includes Tehsil Headquarters (THQs) and 905 Mother and Child Health Centers (MCHCs). The tertiary level health services are based on 55 District Headquarters (DHQs) and 22 teaching hospitals (Health Facility Assessment, 2012). Maternity care is available at all levels with varied qualities and levels necessitated by the socio-economic status and geographical site of the community. The development of health care system in Pakistan is based on political, social, and economic structure as well as the cultural values practicing in the society. The prime conscientiousness of healthcare system is to progress individual’s health status, by formulating effective and sound health policies, programs and strategies. Other harmonizing functions of healthcare includes social and economic capital as well as governance of healthcare system (Khan, 2008).

The provision of ample and cost effective primary healthcare services is the state’s responsibility in most countries around the world. World Health Organization (2009) stated that ‘to put people first’ is one of the essential focuses of primary healthcare, especially women, due to their explicit health needs of motherhood. It is fulfilled by the provision of health services by public sector hospitals; they are governed by autonomous bodies of the state (that formulate and plan the health policies and programmes). However, politically and economically stumpy standing of the country has led the sluggish escalation of development in various field of life. Due to low Gross Domestic Product (GDP), the public spending on important sector such as health and education is struggling for its advancement since the inception of Pakistan. According to WHO global health expenditure data base reported by World Bank (2014) Pakistan spends 0.9% of GDP on health which is less as compare to its neighboring country India (1.4%), Iran 2.8, Afghanistan (2.9%) and China (3.1%). Healthcare services in each province of Pakistan are delivered through public, private and non-governmental sector. Healthcare system described by (Punjani & Shams, 2014) comprises of various parts and sub-system which include service delivery, finance, technology, leadership, physical and human resources. Having the status of low income country, Pakistan is facing crisis in public healthcare system. The full healthcare coverage is only accessed by 27% of its population comprises of armed forces; government employees and members of align organizations, whereas 73% of the population have to bear the healthcare by its own means.

The government run healthcare system in Pakistan is based on public hospitals, dispensaries and basic healthcare units which are not sufficient to meet the needs of 169.9 million people (Irfan, Ijaz, & Farooq, 2012). Collins, Omar, and Tarin (2002) visualized healthcare system of Pakistan as partially vertical and horizontal. The formulation of health policies, allocation of funds and delivering healthcare services are monitored by Federal Ministry of Health. However, usually it works horizontally by devolving the roles and authorities from federal to provincial level. In this way the federal government establishes policies, plans, provide technical support and training resources, whereas services are delivered by provincial and district health departments through primary, secondary and tertiary level of healthcare. Despite the expanded system of healthcare in Pakistan, maternal and infant mortality remains very slow to change. Bhutta (2000) mentions that more than 90 among every 1,000 newborns cannot reach their first birthday, half of them die within the first four weeks after birth and the majority dies within the first few days. This shows despite establishing widespread public healthcare services, indicators of maternal and child health remains low. Besides the factors of low spending on maternal healthcare by the government, deprived nutritional status of women, poverty, and socio-cultural practices toward maternity care, also contributes to amplify maternal and child mortality.

The health system in Pakistan lacks adequate planning, rapid changes in health policies, deficient financial resources as well as under-utilization of resources. Inadequate public health services, socio-economic and cultural barriers, inappropriate measures to utilize the resources and weak governance are the major constraints on effective utilization of health services. Lack of transparency, inadequate utilization of funds and lack of professional human resources add to the problems of it healthcare system to achieve its targets for the provision of ample healthcare services. In addition, lack of human resources and their inefficient performances may also lead to the poor performance of healthcare (Nishtar *et al.*, 2013). Efficient delivery of health services by the hospital and the providers is also reliant on the effective planning and implementation of health policies and programmes formulated by the government (Kamal, B., Abbassi, S.R. S., Rehman, 2013). Pakistan has well-designed up-to-date health policies which predominantly focus on women's health with respect to their maternal needs. But due to lack of financial resources, poor governance and inefficient management system, the implementation of the policy initiatives are not achieving their targets and goals (Rehman, & Abbassi, 2013).

Structure of Maternal Healthcare Services

The structure is described as both the physical and human resources are for healthcare; the process involves activities performed by personnel to deliver healthcare, whereas outcome/outputs are the result of those activities. Donabedian (1985) approach of provision of healthcare services for mothers and newborns has extensively been used in literature. It focuses on three aspects of provision of care i.e. structure, process and output. Moreover, Gottvall, Waldenström, Tingstig and Grunewald (2011) reports the unconstructive outcomes of medical intervention for maternity care due to increase in caesarean cases and birth complications. Conversely, the outcome of medical interventions is furthermore influenced by the preference of these interventions by doctors and patients.

The process of measuring healthcare services determines on whether a patient receives ample and efficient care. It is defined as the interaction and anything that is performed as part of the encounter between a doctor and a patient such as providing information, emotional support, as well as patient's involvement in the decision of treatment and curing process. Outcomes refer to a patient's satisfaction with the health status or improvement in the illness after receiving medical care. This also includes the cost benefit impact on the patient's health status (Donabedian, 1985). Maxwell (1992) studied healthcare services from three perspectives i.e. structure, process and outcome with different indicators such as accessibility, availability, affordability, relevancy, equity and sustainability of health system. To measure the process, he elaborates on the indicators like appropriateness, acceptability, technical competence, safety and interpersonal relationship. The outcome is measured through coverage, effectiveness, efficiency, from the perspective of user satisfaction. But these are not exhaustive indicators as the intervention and adoption of technology is not mentioned in any perspective. Similarly, Donabedian's approach does not specify the role of medical interventions in provision of healthcare services. Thus, this establishes a gap in earlier research which necessitates this indicator to be explored in this research in order to measure its contribution to efficient provision of healthcare services.

Although maternal healthcare facilities in urban areas are comparatively better than the services in rural areas, but the quality and coverage of the maternal health services does not fulfilled the necessity of the urbane population. It is reported by Matilda (2013) who study 35 pregnant mothers at Temeke hospital in Temeke municipality, a place nearby Indian Ocean found some constraints such as lack of staff, negative attitude of healthcare providers, poor quality of services, high cost and less equipments etc women have to face in accessing health services at hospital. Due to rapid advancement of technology and medical techniques in maternity care, it becomes essential to identify the efficient delivery of these services provided at public hospitals in terms of their efficiency, technical competence, relevancy, affordability, reliability, etc. These dimensions are indispensable for every hospital to ensure safe and quality maternity care; hence, the study will facilitate the hospitals to understand their position according to these dimensions. Kruk and Freedman (2008) determined three important indicators to measure health system performance which are effectiveness, equity and efficiency. These indicators assessed health system in terms of improvement in service delivery, access to quality of care and cost-effectiveness respectively.

Furthermore, continuity of healthcare is an added imperative indicator to determine the healthcare services in hospitals in Australia and the UK as stated by Coyle *et al.* (2001) to strengthen the stipulation of hospital based healthcare to mothers at the time of childbirth. Continuity of care focuses on the efficacy of the structure and the role of the providers to provide continuum of care defined by care structure and care interaction. Care structure is attributed to the organizational framework of hospitals to deliver services, while care interaction measures the interaction and rapport building of mothers with the care providers. The findings indicate that the hospitals follow a systematic process to execute the services. It also supported the friendly interaction with the care providers which brings more satisfaction to the patient regarding healthcare services.

Besides the process of healthcare delivery, satisfaction of maternity care at hospitals stretched out on the structure and milieu of the hospitals. As reported by (Jamas, Hoga, and Tanaka (2011) mothers were not satisfied with the structure and care process of the hospital in Brazil because of lack of beds, non-availability of doctors, not permitting family members to stay with them, misconduct by doctors and staff, inappropriate procedure of treatment, etc. Berhane and Enquselassie (2015) mentioned six attributes to investigate the effectiveness of the healthcare services from patients' perspective such as waiting time for consultation, doctor-patient communication, nursing communication, availability of medicines in the pharmacy inside the hospital, continuity of care and diagnostic and treatment facilities. Patient selection and preferences of healthcare are associated with their willingness to wait, patients' focused treatment and the value of services delivered by the hospitals. Communication with doctors and nurses as well as availability of drugs and other diagnostic services contribute to the patients' satisfaction of healthcare services leading towards the preferences to access particular hospital.

Brandes *et al.* (2009) reviewed 80 studies conducted on public hospitals between 1998-2009. It consists of 39 studies from Sub-Saharan Africa and 23 from Asia and the Pacific which indicated that public hospitals are deficient in technical and human and financial resources. However the mentioned studies by James *et al.* (2009); Berhane and Enquselassie (2015) and Brandes *et al.* (2009) did not measure the social-cultural aspect of care as well as advantages and disadvantages of the use of technology at hospitals which desired to be studied in order to assess the effectiveness of healthcare services. Impending distinction in provision of healthcare services can also be manipulated by the socio-cultural practices and economic position of the inhabitants. Darmstadt, Bhutta, Cousens and Adam (2005) suggests three modes to assess the health status of neonates: outreach, community services, and clinical services. The access to hospitals and healthcare centers depends on the socio-economic status of the individuals. Infant mortality is high among those communities which do not have access to health centers. But on the other hand, mortality rates are also contributed by other determinants such as inequitable and asymmetrical distribution of service deliveries either by the community or by health centers. Another study by Schiffman, Darmstadt, and Agarwal (2010) reported 36% of global infant mortality is because of infections transferred during the process of childbirth as compare to 28% deaths due to prematurity and 28% contributed to complications interconnected with childbirth. Therefore, it is suggested to involve these three modes i.e. outreach, family-community service and clinical services to overcome the problems related to neonates and to provide better healthcare to reduce mortality rate. The definite provision of healthcare services significantly impacts patients' satisfaction with services as Yousapronpaiboon (2013) demonstrated by conducting a cross-sectional study on 400 hospital outpatients in Thailand. The study measured five indicators of healthcare service i.e. responsiveness, empathy, tangibility, assurance and reliability influence on efficiency of healthcare services. The findings of the study illustrate that tangibility and assurance were significant at the 1% significance level, and reliability, responsiveness and empathy is statistically significant at the 5% significance level. Similarly, Irfan, A., Ijaz and Farooq (2012) investigated the worth of services delivered to patients by public hospitals in Pakistan on 369 respondents with the

same abovementioned five dimensions studied by Yousapronpaiboon (2013). The findings indicate that although these indicators had strong relations between patients' satisfaction with public hospitals, due to inefficient resources and mismanagement, the hospitals were not making evident exertions to provide ample services to their patients and were unable to encounter their desires and demands. In addition, Sharmila (2013) also illustrate significant relationship of patients' satisfaction with the provision of services at public hospitals in India. Beside this availability of doctors and services also have momentous association with women's experience and satisfaction with the delivering baby at hospitals. Andaleeb (2001) focus on patient's satisfaction as a principal feature to be examined in healthcare services. The inclusion of women's satisfaction with the healthcare services was given much consideration at International conference on population and development held in Cairo in 1994 (Aldana & Piechulek, 2001). Since that, this is considering in public health research focusing on assessment of maternal healthcare services.

On the other hand, Hassan and Rehman (2011) give importance to doctors' perspective regarding their relations with the patients. Mainly doctors report that examining many patients in few working hours with unattractive salaries do not motivate them to spend more time on one patient. Also due to overcrowding of the patients in public hospitals, sometimes their misconduct is reported by patients. It is concluded that ample time given by doctors leads towards higher satisfaction among patients. Number of initiative have been taken in Pakistan to improve mother and newborn health, Pakistan Initiative for Mothers and Newborn (PAIMAN) project is one of the example of it implemented in districts between 2005 to 2010. The project emphasized on provision of safe delivery practices equipped with emergency obstetric care (EMOC) by encouraging community level participation and involvements of religious scholars (Ariff *et al.*, 2010). The outcome of the project resulted in overcoming the number of maternal and neonatal mortality (Jain, Sathar, Salim, & Shah, 2013).

Maternal healthcare also focuses on neonatal care matters. The transfer of healthcare associated infection among neonate is the problem all over the world. Even in developed countries like USA, Australia and UK which have better healthcare system, the issue of cross infection among newborns is subsistence. Kelven *et al.* (2007) reported a survey based study on healthcare associated infection in United States hospitals. It was estimated that healthcare associated infection is the significant cause of neonates' mortality and morbidity which is approximately 1.7 million in number. Among that morbidity is 33,268 infection cases reported in high risk nurseries, and 19,059 in normal baby nurseries, while mortality is 98, 987 due to pneumonia (35,976) bloodstream infection (30,655), urinary tract infection (13,088, surgical site infection (8,205) and 11,062 other infections. The figures depicting how serious the problem of cross infection among newborns is associated with the hospital care. In Asia, India is facing the highest neonatal mortality due to infections transferred during the newborn care at district hospitals. Estimation shows that 20% of birth in the world occurs in India where the newborns are the most vulnerable and fragile beings (Oommen, 2015). Among 27 million of live births in each year, 1.0 million die within first four weeks which is 25% of the total 3.9 million neonatal deaths in the world (Bleich, Özaltin, & Murray, 2009; Hills & Kitchen, 2007).



(Source: Pakistan Guides, 2006. <http://www.pakistanguides.com/maps>)

Figure 1. Map of Pakistan

An observational study was conducted by Velaphi *et al.* (2005) in Rajasthan and Madhya Pradesh district level hospital to assess the provider's competency in dealing with newborns. The findings reported low level of provider's competency in resuscitation of baby care as well as less intention given to infection prevention. The provider's had knowledge about the resuscitation but lacks practical skills to perform it. It is concluded that newborn care at public hospitals in India is moderately satisfactory which needs to be noticed by the healthcare system. Another study by Zaidi *et al.* (2005) also reported the similar findings of increasing risks of neonatal infection at hospitals. Hospital born babies are at greater risk of having infections due to poor management of infection control practices. The neonatal infections reported 3-20 times higher in developing countries as compare to developed nations. The common infections transferred by the hospital are pneumonia, bloodstream, and staphylococcus pathogens. The recovery cost and trepidation of mortality and morbidity jeopardize the health seeking behaviors by the users in developing countries.

Scarcity of Resources

The physical, human and financial resources are very important in the establishing and functioning of any institution. The public sector health institutions in developing countries are struggling to meet the resources according to their population which reflected on the quality of the services. Resources are very important in efficient use of healthcare service deliveries, but unfortunately in most of the developing countries, the government's spending on health is low (0.45% of GDP) (McGinnis, Williams-Russo, & Knickman, 2002).

The World Bank estimated lower spending is least \$44, but Pakistan is able to spend only \$37 per capita which is distressing to deliver ample healthcare services to its people (Business Recorder, 2016). According to Mundial (2004) Pakistan is the sixth most populous country in the world but having limited economic resources. Due to which maternal and newborn mortality number is not decreasing up to the number which it should be. Number of governmental efforts to initiate various motherhoods programs is still very slow in its implementation. In public sector hospitals, the maternal healthcare services are free of cost as written in health policies, but due to lacking of financial resources, patients have to bear some money for receiving the services. Khan and Zaman (2010) highlighted the cost women have to bear for vaginal delivery and caesarean section at tertiary level public hospitals in Pakistan. As reported by the hospital staff, the average of USD 40 (2688 Rupees) for spontaneous vaginal delivery and USD 162 (5278 Rupees) for Caesarean section has to bear by the patients. Although maternity care at governmental hospital is apparently "free" but some hidden and unpredictable cost have to shell out by the patient, such as for expensive medicines, extra use of injection or surgical equipment due to any complication, or non-availability of medicines, overstay in wards or staying in private ward and room. Another study by Fikree, Mir and Haq (2006) conducted in Multan, Pakistan found as shortage of physical and human resources such as; drug supply, less number of beds, less number of staff and doctors respectively. Similar study was reported by Nyamtema *et al.* (2008) highlighted shortage of skilled staff in public hospitals in Tanzania leads to increase in maternal and infant mortalities and morbidities.

ROLE OF TECHNOLOGY

Beside the physical and human resources to establish healthcare system, the role of technology in the current era cannot be overlooked in health sector. Due to increasing number of complication in maternal healthcare the demand and usage of technology is increasing. Kwankam *et al.* (2001) definition of health technology comprises of devices, drugs, equipment, surgical procedures, technical diagnosis techniques as well as supportive system, which required providing healthcare services. Ham *et al.* (2012) asserted advancement of technology in medical care which improves the quality neonatal care and managements of surgery cases. Medical devices also enable to detect the causes of any illness at the very early stage of life. Similar study was conducted by Islam *et al.* (2015) in Bangladesh to know the effectiveness of the use of technology for maternal and newborn healthcare. The data collected from 68 in-depth interviews from the healthcare providers highlighted the relationship between quality of care and use of technology. Modern technology such as electronic devices and network facility enables to maintain the hospital record to make the system transparent and accessible. The growing education level and socio-economic condition of the users accepted the integration of technology into healthcare service. Similar findings were also reported by Spector, Reisman, Lipsitz, Desai, and Gawande (2013) to establish an association between technology and quality of care for childbirth. The study conducted at birth centers in African and Asian countries demonstrated high mortality of infants due to unavailability of healthcare technologies. The birth centers were suffering with shortage of indispensable labour equipment and modern technology.

Conclusion

The article provided ample literature on the state of availability, utilization and quality of maternal healthcare globally and particularly to Pakistan. The pervious researches highlighted the matter of scarcity of resources to fulfill maternal health needs. It is also verified by the existing literature that the no specific budget has been allocated for women's health. Various studies indicated the research gaps with respect to qualitative research design as well as triangulation of the assessment of maternal healthcare services from patients, doctors and nurses standpoint. The identified gaps in the previous studies are intended to assess in the present study.

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