

2.2 Effectiveness of those strategies

Several studies reported that maternal status has been improved for last 10 years in the country and this would have been possible due to the safe motherhood program of Nepal [Simkhada *et al.*, (2006); Dhakal *et al.*, (2007); Simkhada *et al.*, (2008); Christian *et al.*, (2008); Sharma, (2004) and NDHS, (2006)]. This safe motherhood program was started to work together with the Ministry of Health (Safe Motherhood Program, 2002), Population and Family Health Division of Nepal with taking an aim to reduce the maternal deaths in Nepal through the improving the quality of maternity services and encouraging more women to use available services by mobilizing local groups or community people (NSMP, 1997). This program was part of SLTHP and NHR. The functions of NSMH were policy and program development, service provision and increase the access through providing essential health care service in the community at free of cost. Examples of those programs are out rich clinic, establish essential obstetric care (EOC) center, and provide training with essential tools and sensitize the responsibility to those human resources who works in remote areas (NSMP, 1997).

2.3 Challenges of Strategies

Those strategies have not been fully successful to achieve the goal, due to several reasons such as; education and knowledge of women, economic status of people, geographical distribution, etc, revealed by several studies. The study of Dhakal *et al.*, (2007) reported that the causes of maternal deaths are age, ethnicity, and husband's education, socioeconomic status of women and limited knowledge about health care among women. The systemic review of Simkhada *et al.*, (2008) suggested that the role of women in the house, decision making power at home and social, economic condition are the main causes of less utilization of the postnatal care service. Furthermore, the longitudinal cohort study of Christian *et al.*, (2008) revealed that the education of women and the lifestyle are the major factors of maternal death. More ever, Simkhada *et al.*, (2006) urged that less available maternal health care facilities, geographical distribution, inadequately developed transportation facilities along with communication, poverty, illiteracy, women's status in society, less utilization of available health services, political conflict, less number of health professionals in health institutions and lack of health education are the major problems and which are the key issues in Nepal. Additionally, the women's empowerment is also an affecting factor of utilizing the health care service during pregnancy and delivery (Sharma, 2004). Finally, the major cause of maternal death is knowledge and education revealed by many studies. This strategy couldn't be success to tackle the health problems, due to limited knowledge of health education and less available health services. Therefore, the policy or program should be able to tackle with social determinant factors of health to reduce the health inequalities in the community (Benzaval *et al.*, 1995).

2.4 Proposed Strategies for Improvement of Maternal Health

According to Naidoo and Wills (2005) the strategy is a plan of action to achieve the targets and goals. The goals of public health and health promotion are to promote the prospective health, well being, appropriate condition, proper use of available services and dropping mortality and ill health of people by utilizing suitable approaches (Naidoo and Wills, 2005). Instance, the health promotion and health education are the key approaches to improve the health of people (Naidoo and Wills, 2009). Where, health promotion is defined as "process of enabling people to increase control over, and to improve their health" according to the Ottawa Charter (WHO, 1986). That means it is a positive concept of emphasizing social and personal possessions as well as physical competencies of people. Additionally, the responsibility of health promotion is to maintain a healthy lifestyle for better health (WHO, 2014).

Furthermore, there are a few key strategies for improvement of health such as health communication, health education, self-health mutual aid, organizational change, community development and mobilization, advocacy and policy development (Naidoo and Wills, 2000). Similarly, there are some approaches to change the health behavior as like; medical or preventive approach, behavior change approach, educational approach, empowerment approach and social change approaches (Naidoo and Wills 2000). Many studies (explained above) have shown that the lack of maternal health education is a major factor of maternal death. Therefore, educational change and behavior change approaches can utilize for the improvement of maternal health in Nepal according to the above findings.

2.5 Health Educational Strategy

The aim of this strategy is to improve the knowledge and skill by giving information regarding health care. This educational approach (Green and Kreuter, 1999) is based on set of theory about the association between knowledge and behaviour of people (Naidoo and Wills, 2009). In fact, the aim health education approach is to improve the health of people by providing health education (Baric, 1991) and with the help of this strategy, women can make aware about the risk, complications and symptoms of disease during pregnancy, delivery, and until the postpartum period by involving them in the health education and health information program at the community level. In addition, social norms and values as well as the individual attitude of women can change by giving health education (Baric, 1991, Sharma and Romas, 2012). Adequate knowledge and skills about personal health care can be provided through formal, informal as well as non formal education at community level according to their ability or knowledge of women, and which should be cost effective (Baric, 1991). It has been suggested that educated women have a greater decision making power on health associated issues (Simkhada, *et al.*, 2006) and also more likely to understand the benefit of using the maternal health care service and that kind of education may enhance female autonomy, thereby enabling them to make decisions about their own health (Matsumara and Gubhaju, 2001). They can also have the ability and

willingness to travel and be more confident in dealing with their problem with health worker (Simkhada, *et al.*, 2006).

Likewise, there are some health education solutions of health education approach such as a mother can be aware by giving accurate knowledge regarding the causes, prevention, treatment and management of some diseases as well as an essential skills and knowledge about health can provide to mother through health action which is related to prevention, treatment and management of diseases with the utilization of communication and teaching learning activities (Baric, 1991). The randomized controlled trial (Morrison *et al.*, 2005) conducted in rural parts of Nepal has suggested that the active participation in health program at the community level to mother was very helpful to improve the understanding of maternal health rather than not participated.

2.6 Method of Educational Approach

According to psychological theory, there are three aspects of educational approach such as; cognitive (information and understanding), affective (attitudes and feeling) and behaviour (skill) (Naidoo and Wills, 2000, and Green and Kreuter, 1999). The education can help to make choices about their health behaviours (Sharma, *et al.*, 2007). In addition, education promotes new values and attitudes towards the modern health service. Likewise, it may also help to provide a feeling of self-worth and increase self confidence, which is an important to bring changes in health related behaviour (Faruta and Salway, 2006). This educational information can be relayed to women through the leaflets, booklets, visual display and individual counselling according to its necessary. There may also chance to share and explore the knowledge and attitude of own health problem with another. It can be possible by group discussion, one by one interaction or counselling. The messages about health and disease can also transmit through TV, radio or newspaper. This approach may help to increase the decision making power of women (Morrison *et al.*, 2005). However, there should be available trained teacher or facilitator to provide health education for health promotion. Likewise, strategy is not only sufficient for the improvement of maternal health, but also necessary the proper monitoring, supervision and evaluation of that program at the proper time (Naidoo and Wills, 2009). There should be focused on implementation, follow up and feedback of clients.

2.7 Behaviour Change Approach

The educational approach is not only sufficient to improve maternal health, but also behaviour change approaches are an important to improve the maternal health (Heimlich and Ardoin, 2008). The main aim of behavior change approach is to encourage individual women to accept healthy behavior instead of unhealthy habit (Naidoo and Wills, 2000). In fact, it helps to change the individual's attitude and behaviour and also believes that health is as a property of the people (Naidoo and Wills, 2000). People can improve their health by selecting his/her lifestyle. In other words, there are a close relationship between individual behaviour and social environment. The behavior can change by undertaking mass media campaigning or communication, face to face talk,

discussion, TV, documentary, role play, drama and newspaper (Naidoo and Wills, 2000).

2.8 Theories of Individual Behaviour and Behaviour Change

There are different theories and models of behaviour change such as; Theory of Planned Behaviour and Theory of Reasoned Action, The Health Belief Model, Stages of Change (Tran theoretical Model), Social and Technological Theories of behaviour Change and Integrated tools and Frameworks of Behaviour and Behaviour Change (Ajzen, 1985, 1991). The theory of planned behaviour is one of the widely applied behaviour theories for behaviour change, which theory adopt a cognitive approaches to explain the behaviour which centers on an individual's attitude and beliefs (Ajzen, 1985, 1991; Ajzen and Madden, 1986). In fact, there are different stages to change the behaviour as like; attitudes towards behaviour, subjective norms and perceived behavioural control by which person can ready for intention to act and then lastly changed the behaviour (Heimlich and Ardoin, 2008).

Similarly, the health belief model is also used during behaviour change of people, which is also cognitive model. We imagined that behaviour is determined by his/her beliefs about threats to an individual's well being and the effectiveness and outcomes of particular actions or behaviours. According to this model, a person has to feel that threat regarding the disease, then he/she go for further stages. At this stage, the person thinks about the disease and its outcome and effectiveness of themselves, which we called self- efficacy (Bandura, 1997) then eventually person get changed the behaviour (Sharma and Romas, 2012; Hochbaum, 1958; Rosenstock, 1966).

Likewise, The stages of change model also widely used a cognitive model which has five different stages as like; i) pre-contemplation, ii) contemplation, iii) preparation, iv) action and v) maintenance (Prochaska *et al.*, 1992). Movement or transit between stages of this stage change model is driven by two key factors, e.g. self efficacy and decisional balance. That is the outcome of individual assessment of the pros and cons of behaviour of a person (Heimlich and Ardoin, 2008; Armitage *et al.* 2004). This model is more popular amongst practitioners. In addition, the "4" E's model (HM Government, 2005) is also a useful approach to change behavior. This approach changes as attitudes and behaviours over time.

However, there should be necessary a qualified, trained person to conduct behaviour change approaches. Similarly, it takes long time to change behaviour of people (Naidoo and Wills, 2000). Even though, these theories and models are important approaches to the improvement of maternal health.

3. Conclusion

The existing health policies, programs and strategies have not been fully successes to the improvement of maternal health due to certain factors. In addition, several studies suggested that education and knowledge regarding health are

the main factors to improve the maternal health. Furthermore, it can improve the maternal health by utilizing an educational strategy along with a behaviour change in approach from a trained person with good monitoring, supervision and follow-up and also proper employ the feedback of clients. Similarly, all programs should be focused to poor, underprivileged and marginalized population in a rural area with good management systems. The policy, program and strategy should be able to tackle with social determinant factors to improve the health inequality and then eventually the maternal death can be reduced in the country.

4. Competing Interests

The authors declare that they have no competing interests.

5. Author Contribution

All authors contributed to the current study's conceptualization, and preparation of the article and approved the final manuscript.

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