

The Midwifery Services Framework (MSF) for Quality Workforce Production: A Sensitization Meeting in Nepal

Prof. Kiran Bajracharya¹

¹Maharajgunj Nursing campus, TU, IOM

Founder President, Midwifery Society of Nepal. Email:kiran_baj@yahoo.com

ABSTRACT

Background: Midwifery service framework (MSF) is a tool developed by International Confederation of Midwives (ICM) and its partners to support the midwifery services across all countries focusing on a quality midwifery workforce. The framework provides health system developers and planners, maternal and newborn health experts, policy makers and other stakeholders such as midwives, educators, regulators and professional associations to develop new or strengthen existing effective and efficient midwifery services with evidence based. The MSF supports the implementation of the midwife-led model of care, which has proven to be an effective and desirable model of care provision for women and their families.

Methods: This report highlighted the results of the initiation of sensitization meeting on MSF for developing Sexual, Reproductive, Maternal and Newborn Health (SRMNH) services by midwives in Nepal. A series of two consecutive sensitization meeting were conducted in February 2018 at Ministry of health and population and Paropkar Maternity and Women's hospital Thapathali. A total of 129 participants participated from policy level MOH, regulators, educators and professional colleagues including UNPA, GIZ and Midwife educator from UK. Several discussions were made on the role of the midwives and their package of care, job description and collaborative care.

Results: Ministry of Health and Population should take a lead role and technical assistance to be supported by Midwifery Society of Nepal since the decision makers are not much serious about the midwifery recruitment and deployment at present. The major focus was on how midwives work and collaborate with other health professional i.e obstetricians, pediatricians and nurses. There is a still need of advocacy about midwifery profession in the country and wider circulation of midwifery related reference materials was requested.

Conclusions: It has been realized there should be ongoing discussion and follow up meetings to be held with government and professional key leaders. The supporting partners to be identified and Skype with ICM is important to hold a workshop. Government should take the leadership role for inclusion of framework related to midwifery workforce production, recruitment, deployment, retention, supportive supervision in different provincial health facilities and monitoring for its sustainability. Midwives association has the role of technical support in this regard. A close follow up dialogue are needed with MOH, ICM for delivering quality maternity service in Nepal.

Key words: Midwifery service framework; International confederation of midwives; package of care; midwives.

INTRODUCTION

Guiding principles of midwifery

Professional midwifery care including emergency care should be available, accessible, and acceptable to all women, and should be of good quality, including being sensitive to gender and culture and respectful of service users. Midwives should provide evidence-based services along the entire continuum of care from adolescence and pre-pregnancy through pregnancy care, childbirth and the postnatal period, including family planning and safe abortion care (PMNCH, 2011). They should be able to provide services in the full range of settings from home, through primary health care facilities to referral hospitals.

To achieve the above SRMNH services, midwives

must be educated and regulated according to global standards (ICM, 2013a, 2011a), and operate within a functioning health system including other cadres of health worker such as obstetricians and nurses (UNFPA et al., 2014).

Who is Midwife ?

A midwife is a responsible and accountable health professional who works in partnership with women to provide the necessary support, care and advice from the point at which a woman or girl becomes sexually active, through pregnancy, childbirth and the postnatal period. Midwives are skilled birth attendants as defined by WHO (WHO, 2004) and can conduct births on their own responsibility as well as provide care for the newborn. The role includes health counseling

and education for women, their families and the wider community.

Midwifery competencies

ICM has defined seven midwifery competencies (ICM, 2013b), which form the basis of the MSF and describe as follows: (1) knowledge and skills from obstetrics, neonatology, the social sciences, public health and ethics that form the basis of high quality, culturally relevant, appropriate care for women, newborn infants, and childbearing families; (2) health education and services to promote healthy family life, planned pregnancies and positive parenting; (3) antenatal care, including early detection and treatment or referral for complications; (4) care during labour; (5) postpartum care for women; (6) care for the newborn up to two months of age; and (7) abortion-related care as appropriate within the applicable laws, regulations and protocols.

Key Concept of MSF:

The midwifery service framework (MSF) is designed to 'scale up' and/or strengthen midwifery programmes to deliver sexual reproductive maternal and newborn health (SRMNH) services at the national level and to integrate midwifery in the national human resources for health (HRH) agenda through effective programme development and advocacy. It spells out what needs to be considered to set up or strengthen midwifery services and the tools that can help countries do that. It helps concerned government, stakeholders and association to assess their current situation, what needs to be improved and the tools available to achieve the desired changes in SRMNH services.

It explains key midwifery concepts, outlines a step-by-step approach on how to set up or strengthen midwifery services through discussion of the quality care that women and newborn need, education, regulation, and effective management of the workforce and builds the ongoing monitoring and evaluation of the process.

The approach helps to identify next steps for strengthening or improvement through the use of decision trees that lead to a selection of the available tools from ICM and partner organizations which includes:

1. The WHO Midwifery Strengthening Toolkit,
2. Jhpiego/MCHIP Pre-Service Education Toolkit for Midwives
3. UNFPA/WHO/Intel/Jhpiego e-learning modules on essential maternal and newborn life-saving skills.

The components of the framework can be used in

sequence, or separately to develop or strengthen certain parts of a country's midwifery services, or to evaluate their efficiency.

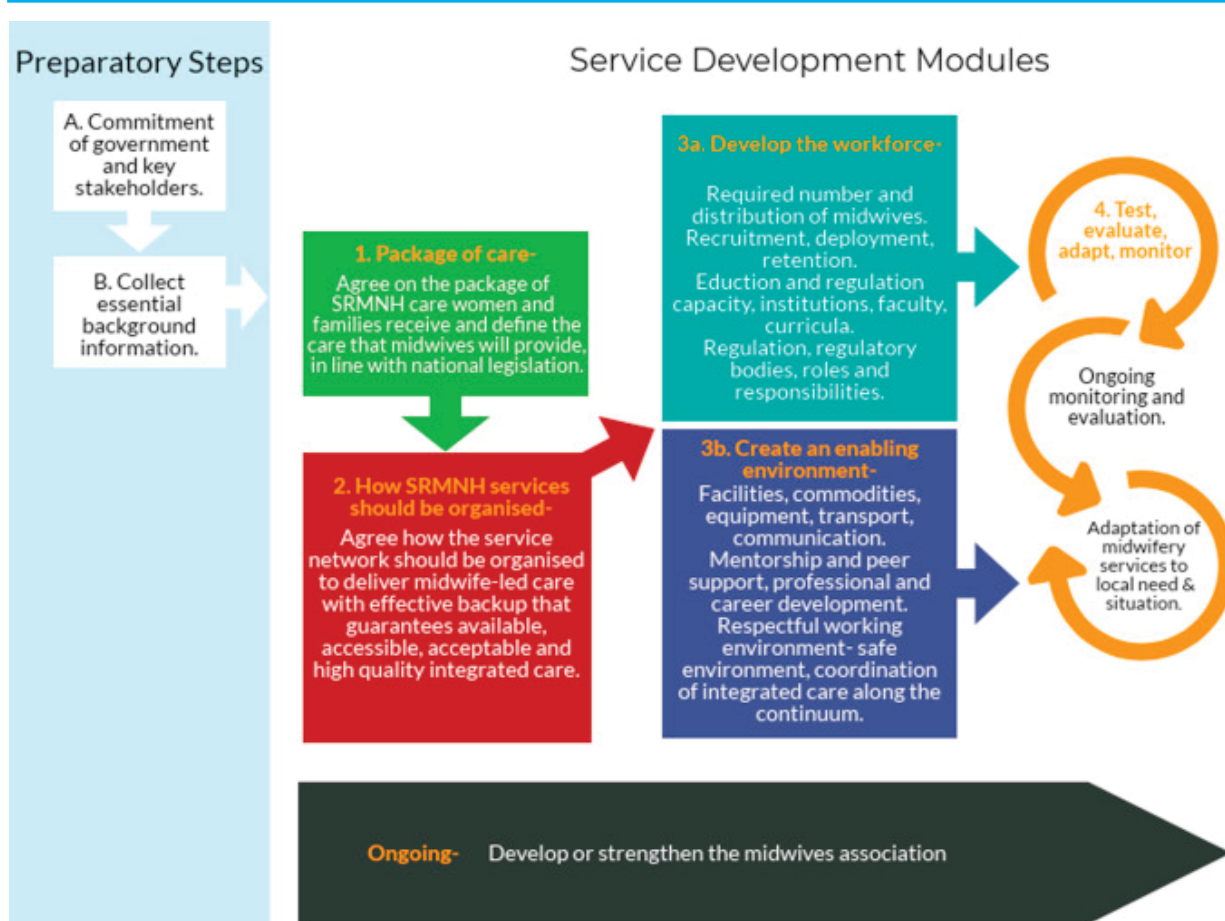
Importance: Many countries have identified the need to strengthen SRMNH services and understand the value of setting up or improving their midwifery services. Many global and national development partners are also interested in inserting midwifery care into national health systems to increase the survival, health and wellbeing of women, children and families. Quality maternal and newborn health services can be improved by the integration of midwifery services across the health system. The MSF process empowers the government to develop informed policies.

Eight countries has adopted the MSF within the period of 2015-17 in Afganistan, Bangladesh, Kyrgyzstan, Lesotho, Togo, Ghana, Uganda, Zimbabwe. These countries has focused on forthcoming priorities on quality of pre- service, regulation, deployment, infrastructure, career path, midwifery model of care, engaging stakeholders etc for the projection of 2030 .

The expression of interest on MSF has been shown by Sierra Leon, India, Nepal, Malawi and Timor Leste for the coming days.

Stages of the MSF

Prior to start implementation of the MSF, two preparatory steps to be followed (1) securing the commitment of government and other key stakeholders, and (2) collection of essential background information. The MSF itself consists of four modular service development steps which includes: package of care, organization of SRMNH services, workforce and work environment, and ongoing monitoring and evaluation (M&E). Underpinning all of these activities is the development or strengthening of the national midwives' association (MA). Thus, in total there are seven steps, illustrated in Fig. 1 mentioned below:



Source: adopted from ICM, Midwifery Service Framework

Nepal Initiation:

Midwifery society of Nepal (MIDSON) has conducted two series of sensitization meeting in February 2018 at Ministry of health and Population Ram shah Path and Paropakar Maternity and Women's Hospital Thapathali. The meeting objectives were:

1. To sensitize about the MSF a tool for quality SRMNH.
2. To explore its process and lesson learned from other countries.
3. To identify the role of the key partners in achieving the MSF in Nepal.

A total of 129 participants from policy level, regulators, educators and professional colleagues including UNPA, GIZ were present. The MSF presentation was made by the president of MIDSON followed by open discussion about how country could adopt the framework and who should led for the inclusion of framework in health system related to SRMNH. This type of meetings are important to identify the support, partners and the potential timeline for MSF assessment and implementation. The MSF can be used by the countries that have midwives and those that do not

(yet) can use to mainstream equity-based approaches to expand the availability, accessibility, acceptability and quality (AAAQ) of midwifery services and the essential interventions for SRMNH.

RESULTS

The major findings of the meetings were as follows:

- ◆ Good to learn about MSF.
- ◆ MOHP and midwifery society should be proactive to integrate into health system.
- ◆ The urgent need of human resource road map and status mapping for safe motherhood.
- ◆ The issues of recognition of midwives and their role with maternity care providers must be clearly spell out.
- ◆ Self - assessment of the SRMNH situation and its destination for SDGs
- ◆ The package of care, job description must be well written.
- ◆ Need of ongoing advocacy events about midwifery and midwives role.

- ◆ Requested wider circulation of midwifery related reference materials for the literature review.
- ◆ The policy makers are not serious about the midwifery services in the coming days.
- ◆ There is no clear pathways for recruitment and deployment of midwives in the provinces.

CONCLUSIONS

Investing in the midwifery workforce is an effective strategy for improving maternal and newborn health outcomes. The Midwifery Services Framework (MSF) provides guidance on how to do this in a systematic manner in different contexts. The involvement of multi-stakeholder, country-led process with several stages are the basic norms of its implementation. The self-assessment and time commitment with resources are needed. The successful implementation will result in a well-supported, sustainable SRMNH care system with leadership from all stakeholders including midwives association.

REFERENCES

1. The ICM, Midwifery Service framework Guidelines for developing SRMNAH services by Midwives Laan van Meerdervoort 702517AN, The Hague The Netherlands 17 March. 2015.
2. Midwifery Services Framework Country Experiences 2017.
3. State of the World's Midwifery: Delivering Health, Saving Lives. 2011. <http://www.unfpa.org/sowmy/resources/en/main.htm>. Publisher: UNFPA and ISBN: 978-0-89714-995-2
4. The State of the World's Midwifery: A Universal Pathway. A Woman's Right to Health, 2014. <http://unfpa.org/public/home/publications/pid/17601>. Publisher: UNFPA and ISBN: 978-0-89714-026-3.
5. Lancet series on Midwifery. 2014 <http://www.thelancet.com/series/midwifery>, accessed 31 July 2014
4. WHO resolutions on health workforce development. www.who.int/hrh/resolutions/en/. Especially the resolution on strengthening nursing and midwifery to the 64th World Health Assembly, WHA64.7, 24 May 2011. http://apps.who.int/gb/ebwha/pdf_files/WHA64/A64_R7-en.pdf?ua=1 (accessed 24 March 2014)
5. Stenberg K, Axelson H, Sheehan P, Anderson I, Gülmezoglu AM, Temmerman M,, Bustreo F. Advancing social and economic development by investing in women's and children's health: a new Global Investment Framework, The Lancet. 2014; 383(9925):1333-54. 2013 DOI: 10.1016/S0140-6736(13)62231-X

Newborn Care Practices of Primi-mothers Attending at Maternal Child Health Clinic of a Government Hospital, Birgunj

Prof. Muna Rana¹

¹Birgunj Nursing Campus, IOM. Email:munarana@gmail.com

ABSTRACT

Background: Despite efforts by government and other agencies, neonatal morbidity and mortality is still high in Nepal. Among all other reasons, newborn care practices are the major contributors for it. Thus this study finds out existing newborn care practices of mother attending at maternal child health clinic.

Methods: A retrospective cross sectional study was carried out. A total 100 primipara mothers having child less than one year of age coming for immunization at MCH Clinic of Narayani Sub Regional Hospital, Birgunj were included in the study by adopting non-probability purposive sampling technique. Data was collected by interview technique by using pre-tested semi-structured interview schedule in Nepali language. Descriptive statistics was used for data analysis.

Results: Majority of the respondents (73%) were in the age group of 20- 29 years. Concerning the religion 77 % belongs to Hindu religion. Just more than half (55%) was illiterate. Regarding newborn care practices almost all (94%) had dried and wrapped their newborns immediate after birth. Almost all (92%) the respondents had followed vaccination of their newborns as per recommended protocol of Nepal Government. Most of them (81%) initiated breast feeding within one hour of birth. Although delay bathing is recommended to prevent neonatal hypothermia (37%) of the respondents had bathed their newborns within 24 hours of birth. Half percent (51%) respondents used to put oil in cord stump which is unhygienic practice. Also (20%) mothers had used pre-lacteal feed before initiation of breast feeding. Honey and sugar were the commonly used pre lacteal feed.

Conclusion: One third of the respondents are practicing some of the potentially harmful newborn care practices such as giving pre lactal feeding, discarding the colostrum, immediate bathing. Health education programmes should address on essential newborn care practice by discouraging harmful practices in culture sensitive ways.

Keywords: Newborn care practices; primi-mothers.

INTRODUCTION

The first four weeks of life constitute the “neonatal period”. The ideal basic needs for any new born includes breathing, warmth, cleanliness, and feeding mother’s milk. Then all new born babies’ requires essential new born care to minimize the illness and maximize their growth and development.¹ Nearly 50% of all infants’ death occur during the neonatal period. Half of this death occurs in the first seven days due to pre-maturity, neonatal tetanus, birth asphyxia and infections, which can be prevented by proper and timely care of the new born. Nepal has the third highest neonatal mortality rate in the world at 34 per 1000 live births. This rate contributes to 66% of the current infant mortality rate of 51 per 1,000 live births, making it the key health problem that requires action to better the lives of all children and to reach Nepal’s Millennium Development Goals.²

Although there has been marked progress in a number of health indicators in recent years, Newborns are still an at-risk and largely neglected population. The state of newborns in Nepal still compares poorly to that of almost all other developing countries. Nepal’s neonatal

mortality rate is the third highest in the world.³⁻⁵ Clearly, essential care of new born help to prevent many newborn emergencies, example umbilical cord may be the most common source of neonatal sepsis and tetanus infection, and good cord care could dramatically reduce the risks of these serious conditions. Breast feeding has a significant protective effect against infections; early breast feeding and the baby kept close to the mother reduce the risk of hypothermia, as well as hypoglycemia.^{6,7}

The mother’s newborn care practice is important factors; some studies in developing countries have identified for the need of conducting research in this area for reducing neonatal mortality and morbidity.⁸⁻¹² Thus this study intended to find out existing newborn care practices of mothers attending at MCH Clinic of government hospital of Parsa district.

METHODS

A descriptive cross-sectional study was conducted in a government hospital of Birgunj, Parsa. The total sample was 100 primi-mothers having child less than one year of age attending immunization at MCH Clinic

of Narayani Sub Regional Hospital, Birgunj. Sample were selected by using non probability purposive sampling technique. Pre-tested semi-structured interview schedule was used for data collection. The ethical consideration was obtained and verbal informed consent was taken from each respondents. Privacy was maintained during data collection. The collected data were analyzed by using descriptive statistics.

RESULTS

Table 1. Socio-demographic Information of the Respondents (n=100).

Characteristics	Frequency	Percent
Age(in Years)		
<20	12	12.0
20-29	73	73.0
30-39	15	15.0
Mean Age $\pm$ SD (22.57$\pm$3.54)		
Religion		
Hindusm	77	77.0
Islam	15	15.0
Christianity	8	8.0
Family Type		
Nuclear	45	45.0
Joint	55	55.0
Education		
Literate	45	45.0
Illiterate	55	55.0
ANC Visit		
Yes	83	83.0
No	17	17.0
Among Visited		
1 time	9	9.0
2 time	15	15.0
3 time	22	22.0
>4 time	37	37.0
Place of Delivery		
Health Institute	85	85.0
Home	15	15.0

This table shows that the majority of the respondents (73%) were between 20-29 years age group. The mean age of the respondents was 22.57 $\pm$ 3.54. Majority of the respondents (77%) were from Hindu religion. Regarding education status 55% respondents were illiterate. Majority (83%) of respondents visited antenatal clinic and 85% respondents delivered their babies in health institute.

Table 2. Newborn Care Practices of the Respondents (n = 100).

Newborn Care Practice	Frequency	Percent
Colostrum Feeding		
Yes	91	91.0
No	9	9.0
Reasons for not Feeding (n=9)		
Lack of Knowledge	4	44.4
Digestion Problem	2	22.2
Fear of baby become Sick	3	33.3
Pre-Lacteal Feed		
Yes	20.0	20.0
No	80	80.0
Types of Pre-Lactal Feed		
Honey	6	30.0
Sugar	5	25.0
Both	9	45.0

This table shows that majority (91%) of respondents fed initial breast milk colostrum to their baby 20 % of respondents fed prelacteal food specially honey and sugar to their newborns

Table 3. Newborn Care Practices of the Respondents (n = 100).

Newborn Care Practice	Frequency	Percent
Immediate drying		
Yes	87	87.0
No	13	13.0
Wrapping with clean clothes		
Yes	94	94.0
No	6	6.0
Initial Bathing		
After 24 hrs	63	63.0
Within 1 hour	17	16.0
Within 24 hrs	21	21.0
Keeping cord clean and dry		
Yes	75	75.0
Putting substance on cord	25	25.0
Types of Substance Used(n=75)		
Oil	51	68.0
Turmeric	16	21.3
Medicine	8	10.7
Vaccinated		
Yes	92	92.0
No	8.0	8.0

This table shows that (87%) of respondents wiped their newborns immediately after birth. Majority (94%) of them used to wrap their newborns immediately after birth with soft, clean and dry old cloth. This proportion of wrapping was higher in literate mothers and male baby. Concerning bathing the newborn (37%) had bath their newborns within 24 hours. Concerning keeping the cord dry majority (75%) respondents had used some substance in cord stump which is not recommended. Main substance used was oil.

DISCUSSION

In this study, majority (83%) of respondents did antenatal checkup during pregnancy. However, more than one third (37%) did not complete four ANC visits, 46% did not visit one to three times and 17% never visit antenatal clinic for ANC check up. This finding is supported by national level report of DoHS which shows that 83% mothers received antenatal checkup service in Nepal.²

Concerning newborn care practices the umbilical cord stump was left undressed in (37%) deliveries whereas more majority (25%) had used some material like oil and turmeric in umbilical cord stump. It is a harmful practice for newborn baby which could lead to infection. It is also supported by a study conducted on Baitadi Nepal¹⁴ and with another study following Focus Group Discussion with various individuals which revealed that most people were unaware of importance of immediate care of newborn and many unsafe behaviors do exist such as common use of untrained attendants, unsafe cord care, immediate bathing of baby. Most of the existing practices were based on deep-seated traditional beliefs. Some used Clean Home Delivery Kit (CHDK) and a few had used knife to cut the cord. All had tied stump with thread and applied mustard oil to prevent infection. Almost all had applied mustard oil on stump considering it prevents infection. Some had applied paste of mustard oil and turmeric powder, a few had applied paste of mustard oil, turmeric powder and a kind of local grass "Dubo", a few had applied mustard oil and ash of cow/buffalo dung and a few had applied red powder "Sindur". Most were willing to apply other substances as alternatives to protect from infection.⁹

We found that immediate wrapping of the newborns after birth was quite high which was followed by almost all (94%) of the respondents. Regarding delay bathing the newborns 37% used to bath their newborns within 24 hours. This finding is consistent with a study conducted in Nepal which showed that more than two third (38%) of the respondents bathed their babies within one hour and only 18.3% of respondents bathed their babies after 24 hours. Another study conducted on rural Southern Tanzania found

that the main reason for early bathing was believed that the baby is dirty, particularly if the baby had an obvious vernix as this was believed to be sperm. On the other hand, keeping the baby warm and covered day-to-day was considered normal practice. Skin-to-skin care was not a normalized practice, and some respondents wondered if it might be harmful to fragile newborns.¹⁰

In this study immediate initiation of breast feeding was higher among mothers majority of the respondents (91%) initiated fed colostrum to their newborns. This finding is similar to a study findings conducted on Southern Tanzania found that although 83% of women breastfed within 24 hours of delivery, only 18% did so within an hour. Fewer than half of women exclusively breastfed in the three days after delivery.¹¹

Here we found that still 20% baby were given pre-lacteal feed before initiation of breast feed, honey and sugar was common as pre-lacteal feed. The finding is consistent to a study findings conducted in rural communities of Jimma Ethiopia which showed that the majority of mothers sub-optimally breastfeed their children. As most of the mothers do not have knowledge on the exclusive breastfeeding, of which 24.6% fed optimally.⁸ Consistent with this finding a study in slums of Diyarbakir, Turkey found that mothers generally have a positive attitude towards breastfeeding, but colostrum is usually perceived negatively. No woman was found to feed her infant exclusively by breastfeeding. Only 9.9% of mothers initiated breastfeeding within the first hour of birth. Mothers with lower education generally believed that the colostrum should not be fed to the infant and that a pregnant woman's milk is unhealthy for the baby.¹²

CONCLUSION

Cultural practices have a significant influence on newborn care practices. One third of the respondents are practicing some of the potentially harmful newborn care practices such as giving pre-lacteal feeding, putting substance on cord, immediate bathing. Health education programmes should address these practices in culture sensitive ways.

ACKNOWLEDGEMENT

Author would like to acknowledge to Tribhuvan University, Research Center for providing mini research grant and respondents for participating in the study.

REFERENCES

1. CREPA; Baseline survey of community based newborn care package. Kathmandu, 2009;
2. Government of Nepal (GON). District Health Service (DHS); Annual Report Kathmandu, Nepal. 2010/2011.

3. Save the Children Fund . Newborn Health & Programme in Nepal, A rapid Assessment of Newborn Health in Nepal. Government of Nepal, Department of Health Service. 2007.
4. WHO; care in pregnancy, childbirth and postpartum period for mother and newborn infant. Compendium of Maternal and Neonatal Health Strategies in SEA Region. 2010;83.
5. Ministry of Health and Population (MoHP), USAID, New ERA. Nepal Demographic and Health Survey, 2006. Kathmandu, Nepal, 2007.
6. Padiyath M., Bhat V., Ekambaram M., 2010. Knowledge, attitude and practices of neonatal care among postnatal mothers. *Cur Pediatric Res.*; 14(2):147-152. www.pediatricresearch.info/yahoo_site_admin//19.176181814.pdf
7. Shamba, D Schellenberg, J Hildon, ZJ, Mashasi, I; Penfold, S; Tanner, M Marchant, T Hill, Z Thermal care for newborn babies in rural southern Tanzania: a mixed-method study of barriers, facilitators and potential for behaviour change. *BMC Pregnancy Childbirth*, 2014;267. ISSN 1471-2393 DOI: 10.1186/1471-2393-14-267 DOI: [10.1186/1471-2393-14-267](https://doi.org/10.1186/1471-2393-14-267)
8. Dessalegn Tamiru, Tefera Belachew, Eskindir Loha, Eskindir, Shikur Mohammed. Sub-optimal breastfeeding of infants during the first six months and associated factors in rural communities of Jimma Arjo Woreda, Southwest Ethiopia. *BMC Public Health*. 2012, 12:363 doi:10.1186/1471-2458-12-363
9. Gurung. Practices on immediate care of newborn in the communities of Kailali district. *Nepal Med Coll J* 2008; 10(1): 41-44.
10. Shamba, D, Schellenberg J Hildon ZJ, Mashasi I; Penfold, S; Tanner, M; Marchant, T; Hill, Z Thermal care for newborn babies in rural southern Tanzania: a mixed-method study of barriers, facilitators and potential for behaviour change. *BMC Pregnancy Childbirth*, 2014;267. ISSN 1471-2393 DOI: 10.1186/1471-2393-14-267 DOI: [10.1186/1471-2393-14-267](https://doi.org/10.1186/1471-2393-14-267).
11. Penfold S; Hill Z; Mrisho M; Manzi F; Tanner M; Mshinda, H; Schellenberg, D; Armstrong Schellenberg, JR (2010) A large cross-sectional community-based study of newborn care practices in southern Tanzania. *PLoS One*, 5 (12). e15593. ISSN 1932-6203 DOI:10.1371/journal.pone.0015593 Downloaded from: <http://researchonline.lshtm.ac.uk/1867/> DOI: [10.1371/journal.pone.0015593](https://doi.org/10.1371/journal.pone.0015593)
12. Ergenekon-Ozelci P, Elmaci N, Ertem M, Saka G. Breastfeeding beliefs and practices among migrant mothers in slums of Diyarbakir, Turkey. *Eurjournal of public Health*. 2006;16(2):143-
13. Joshi H; Home delivery and Newborn care practices among urban women in western Nepal: A Questionnaire Survey. Manipal College of Medical Sciences. Pokhara, Nepal. 2006
14. MD Devkota, MR, Bhatta. Newborn care practices of mother in a rural community In Baitadi. 2011; 10.
15. Bergström A, Byaruhanga R, Okong P. The impact of newborn bathing on the prevalence of neonatal hypothermia in Uganda. *Indian journal of Pediatrics*. 2005; 94 (10):1462-7 retrieved from www.google.com on 2071/12/08.

Prevalence of Teenage Marriage and Knowledge on its Consequences among Married Women in a Community, Biratnagar

SitaDahal¹,BhagawatyKalikotay¹

¹Nursing Campus Biratnagar , IOM

ABSTRACT

Background: Teenage marriage is a worldwide problem associated with a range of health and social consequences for teenage women. It is a problem that affects nearly every society- developed and developing alike. This study was carried out to identify the prevalence of teenage marriage and to assess the knowledge on consequences of teenage marriage among married women.

Methods: Descriptive research design was used. Non-probability, purposive sampling technique was used to select the sample from the population of ward no 2, Biratnagar Metropolitan City. Structured interview schedule was used to collect data. Collected data were analyzed by using Statistical Package for Social Science (SPSS) version 16 and descriptive statistics i.e. mean, median; percentage and standard deviation were used to draw the conclusion.

Results: The study found that higher proportion (93.4%) of respondents were married at the age before 20 years. Regarding knowledge on effect of teenage marriage almost all (95.3%) mentioned it affects physical health, likewise 92.5% mentioned it affects mental health among them 74.5% viewed anxiety as the symptoms of mental affect and 90.6% reported that teen age marriage affect family health and education of family adversely.Overall level of knowledge on consequences of teenage marriage was low.

Conclusion: There is high rate of teen age marriage in the study area and respondent's level of knowledge was found low on consequences of teen age marriage. Education and awareness programme regarding age of marriage and consequences of teenage marriage should be provided to this community to reduce teen age marriage.

Keywords: knowledge on teenage married women; prevalence.

BACKGROUND

Teenage pregnancy, which is detrimental to the health of mother and child, is a common public health problem worldwide. It is one of the key issues concerning reproductive health of women not only in developing but also in developed countries. There is a growing awareness that early child bearing has multiple consequences in terms of maternal health, child health and overall well-being of society.¹

Adolescent pregnancy is associated with higher rates of morbidity and mortality for both the mother and infant. Teenage mothers are at greater risk of socioeconomic disadvantage throughout their lives than those who delay childbearing until their twenties. The younger the mother, the greater the likelihood that she and her baby will experience health complications. The health consequences of adolescent childbearing for mother and child are the problem recognized universal.² UNFPA's state of World Population Report highlights a grim scenario for teenage pregnancies as 7.3 million girls under 18 give birth in developing countries every year. Nepal is a multi-religious and multi-ethnic

country; the uniform pattern of marriage law is applicable to all religious and ethnic communities irrespective of their culture and religion. Law provides that the age of man and the woman getting married must be 18 years in case the marriage is solemnized with the consent of the guardians. This way it is made non-discriminatory on the basis of sex. A patriarchal value reflects on the laws relating to right to marriage. In Nepal, the law has helped in increasing the age at marriage. However, the data that included female marriage at all ages showed that ethnicity is the major factor of age at marriage in Nepal.³ About 1 in 5 girls aged 15 to 19 in Nepal are mothers or pregnant. Yet the vast majority doesn't use contraceptives (86% of married adolescents aged 15-19) and have the highest unmet need for family planning (about 42%, highest in South Asia). Hence the risks of a child giving birth to a child are very high. According to United Nations Population Funds (UNFPA) Niger has the highest percentage of child marriage in the world (75%). In Niger one in three girls is married before the age of 15, and 75% of women aged 20 to 24 are married before age 18. Global issue: one girl out of three will be

Correspondence: Author: Bhagawaty Kalikotay. Nursing Campus Biratnagar, IOM. E-mail: bkalikote1@gmail.com

married before the age of 18 respectively in developing countries except China. The rate of which rose to 65.9 percent from the 57.4 in 2001. However, the marriage status still paints a gloomy picture. Percentage of married population of age 10 and above who were married between 15 and 19 is 48.9% (Female-58.2%; and Male-37%).⁴ Multiple Indicator Clusters System (MICS). 4 Data has Shown Severity of the problem in Far and Mid-Western Region. Multiple Indicator Clusters System (MICS), 2010 - 60% of women aged 20-49 accepted that they were married before reaching the age of 18 years, and 16% before the age of 15 in Far and Mid-Western Regions. It is predominantly parents who arrange child marriage.⁵

The State of the World's Children 2011 ranked Nepal among the top ten countries where child marriage occurs. Over half (51%) of the Nepalese women who are aged 20-24 years were married before they were 18 years old. Nepal is in the top 20 countries globally with high prevalence of child marriage. It is expected that only around half of the marriages that took place is registered. There are unusual trend, however, that parents are delaying the marriage of their child but children themselves opting for marriage. Prevalence of Child marriage is high among Hill/Terai, Janjati, Hill/Terai Dalit and some Terai ethnic group. Of the total female population of the age group 15-18, 23.1% of the girls are married. The girls who marry early often abandon formal education and become pregnant. Maternal death related to pregnancy and childbirth is an important component of mortality for girls aged 15-19 worldwide, accounting for 70,000 deaths each year. If a mother is under the age of 18, her infant's risk of dying in the first year of life is 60 percent greater than that of an infant born to a mother older than 19. Even if the child survives, he or she is more likely to suffer from low birth weight, under nutrition and late physical and cognitive abilities. Teenage brides are at a risk of violence, abuse and exploitation. Finally, teenage marriage often results in separation from family and friends and lack of freedom to participate in community activities, which can all have major consequences on girls' mental and physical well-being. Where prevalent, teenage marriage functions as a social norm. Marrying girls under 18 years old is rooted in gender discrimination, encouraging premature and continuous child bearing and giving preference to boys' education. Parents marry their daughters at a teenage to reduce their economic burden.⁶

According to research report of Plan Nepal, Save the children and World vision International Nepal 2012, In Nepal the major causes of child marriage are family's pressure, the children's own desire, the need for support in carrying the household activities, whereas who were married early reported of parental

pressure (male-52.7%, female-62.1%). Parents and key informants blamed mobile phones and mass media for early marriage based on love and they also claimed that in Terai, the early marriage is held to save money spent on girl's dowry money. Parents have to pay more money if they marry their children late. In actuality, teenage marriage is a violation of human rights, compromising the development of girls and often resulting in early pregnancy and social isolation, with little education and poor vocational training reinforcing the gendered nature of poverty. United Nation Children Emergency Fund (UNICEF) reported that 28.8% of marriages in Nepal were child marriages as of 2011. A discussion paper determined that 79.6 percent of Muslim girls in Nepal, 69.7 percent of girls living in hilly regions irrespective of religion, and 55.7 percent of girls living in other rural areas, are all married before the age of 15. Girls who were born into the highest wealth quintile marry about two years later than those from the other quintiles.^{7,8}

METHODS

Descriptive research design was used and study was conducted in the community of Biratnagar-2 (SaraswotiTol) which is the slum area. Married women below 50 years age was population of the study. Total 106 women who were willing to participate were the sample. Non-probability, purposive method was used to select sample. Structured interview technique was used for data collection. Privacy was maintained throughout the study. Information obtained were kept confidentially. Descriptive statistics that is frequency, percentage, mean, standard deviation was used to assess the knowledge regarding consequences of teenage marriage. The knowledge was scored by totaling the responses of each right answer responded to each question. There were total 19 knowledge related questions with multiple right answer in some question and single right answer in others. Each question carried out 1 full mark and respondents were given 1 mark for right answer and no marks for wrong answer. As for multiple right answers 1 mark is given for each correct response chosen by the respondents. The maximum possible score was 64 and minimum possible score was "0". The knowledge level was categorized as good knowledge and poor knowledge. The respondents scored more than median score (>50%) i.e. above 32 is categorized as good knowledge and less than median score (<50%) i.e. below 32 as poor knowledge.

RESULTS

Table 1. Socio- demographic Characteristics of the Respondents (n= 106)

Characteristics	Frequency	Percent
Age in years		
15-35	79	74.5
36-50	27	25.5
Age of marriage in years		
Before 20	99	93.4
After 20	7	6.6
Ethnic group		
Dalit	28	26.4
Disadvantage Janajatis	4	3.7
Disadvantage non Dalit terai	70	66.0
Relatively advantaged Janajatis	2	1.8
Upper cast group	2	1.8
Education		
Illiterate	30	28.3
Primary	25	23.6
Secondary	49	46.2
Higher secondary	2	1.9
Occupation		
House wife	91	85.8
Labor	2	1.9
Business	13	12.3
Husband occupation		
Labor	51	48.1
Business	11	10.4
Driving	14	13.2
Abroad	4	3.8
Service	26	24.5
Type of family		
Single	58	54.7
Joint	48	44.3

Among 106 respondents, 74.5% belonged to age group 15-35 and 93.4% of respondents were married at the age before 20 years. 66.03% of respondents belonged to disadvantage non Dalit terai group. 46.2% of respondents have secondary level of education and 86.8% were engaged in house work.

Table 2. Knowledge on Effects of Teenage Marriage (n=106).

Variables	Frequency	Percent
Teenage marriage affects physical health of the person	101	95.3
Effects of teenage marriage on physical health *		
Anemia	72	67.9
Cervical cancer	57	53.8
Malnutrition	35	33
Sexually transmitted infections	17	16
Heart diseases	5	4.7
Diabetes	4	3.8
Teenage marriage affects the mental health of the person	98	92.5
Effects of teenage marriage on mental health*		
Fear and anxiety	79	74.5
Depression	66	62.3
Suicidal attempts	33	31.1
Low level of concentration	13	12.3
Loss of memory power	8	7.5
Effects of Teenage marriage on family health	96	90.6
Effects *		
Adjustment problem in family	65	61.3
Unable to take family responsibility	44	41.5
Domestic violence	26	24.5
Forceful pregnancy	26	24.5
Divorce	20	18.9
Death of children	11	10.4
Adverse effect of teenage marriage on Education	98	92.5
Adverse Effects on education of the individual *		
Termination of education	76	71.7
Unable to attend exams	35	33.0
Failure in exams	27	25.5
Unable to attend classes	14	13.2

* multiple response

Table 3. Overall Level of knowledge of the Respondents (n= 106).

Level of knowledge	Frequency	Percent
High knowledge (> 50%)	10	9.4
Low knowledge (< 50%)	96	90

This table revealed that 90.6% respondents had low level of knowledge and 9.4% had good knowledge.

DISCUSSION

According to the literature it seems teen age marriage is common in developing country. These study findings also revealed that out of 106 respondents, 93.4% were married below 20 years of age. It was found that 83.1% girls get married in below 15 years age in some ethnic group, 79.6% Muslim girls get married before 15 years.⁶ Early marriage arise from number of causes like lack of education, pressure from family, lack of knowledge about early marriage. it can lead to psychological and emotional stress and affect as domestic violence, Loss of confidence, Low economic condition. it also create Psychological and emotional stress like forced sexual relation and lack of personal development.⁹ In this study respondent mentioned that cause of teen age marriage is lack of education (51.9%), cultural practice (43.4%), and pressure from parents (21.7%). The study on health problems and social consequences in teenage pregnancy in rural Kathmandu valley among 10 to 19 years teen age girls and it revealed that illiteracy, poverty, lack of family life and education status of family are the factors affect directly in teen age pregnancy¹⁰ which support the findings of this study too. Adolescent pregnancy have negative impact on the mental health of the teen age mother¹¹ and this study revealed similar findings as respondent mentions teen age marriage cause mental instability (92.5%), fear and anxiety (74.5%), Depression (62.3%), suicidal attempts (31.1%), low level of concentration (12.5%) and loss of memory power (7.5%). This study revealed that 90.6% respondents had poor knowledge and only 9.4% had good knowledge which is contrast with the findings of a study conducted on Knowledge, attitude and practice of early marriage in Eittondoubarea, Aljazeera State which showed Majority (77.4%) have excellent knowledge about negative consequences of child marriage¹².

CONCLUSIONS

It can be concluded that there is high rate of teen age marriage in study area. Respondent's overall knowledge was found low on consequences of teen age marriage.

REFERENCES

1. Dilworth T. Poverty, homeless and teenage pregnancy. First steps housing project. Inc. 1-59 and evaluation designs Ltd. 2006. [internet] [Cited on 2016 June 12]. Available from: http://www.urbancentre.utoronto.ca/pdfs/elibrary/HLN-pov-teenpregnancy_lit_Review_2006.pdf.
2. Ahmed S, Khan S, Alia M, Noushad S. psychological impact evaluation of early marriages. International

journal of endorsing health science research 2013;1(2):84-86.[Internet] [cited on 2016 June 3]. Available from: http://applications.emro.who.int/imemrf/Int_J_Endorsing_Health_Sci_Res/Int_J_Endorsing_Health_Sci_Res_2013_1_2_84_86.pdf

3. Nepal Law commission. Nepal marriage Bill. Muliki Ain general code. 2020. [Internet] [cited 2016 May 16]. Available from: www.lawcommission.gov.np
4. Osulah W. The impact of teenage pregnancy school dropout among secondary school girls in Embu municipality in Munich 2007. [internet] [Cited on 2016 June 8]. Available from <http://www.grain.com/en/e-book/>.
5. UNICEF. Finding from the Multiple Indicator Cluster Survey 2010 in the Mid and Far-Western Regions. Kathmandu 2010. [internet] [Cited 2016 May 20]. Available from: www.unicef.org/about/annualreport/files/Nepal_COAR_2010.
6. UNICEF. Gender Equality and Empowerment of women in Nepal: UNFPA 2007. [internet] [cited 2016 May 16]. Available from: www.icrw.org/files/publications/Youth-Reproductive-Health.
7. UNICEF the state of the world's children 2011: Adolescence an Age opportunity 2011. [internet] [Cited on 2016 June 2]. Available from: www.unicef.org/eapro.
8. Ministry of Health and population, New ERA (Nepal), and ICF International Inc 2012. Nepal Trend Report. Nepal Demographic and Health Survey 2011. Kathmandu, Nepal: Author
9. Sah RB, Gaurav K, Baral DD, Jha N and Pokharel PK. Burden of teenage pregnancies in hilly area of eastern region of Nepal. Journal of Nobel Medical College. 2013;3(1):13-18. [internet] [cited on 2016 May 21]. Available from: [www.nepjol.info/index.php/JoNMC/article/download/12231/9](http://nepjol.info/index.php/JoNMC/article/download/12231/9)
10. Kafle PP, Pakuryal KN, Regmi RR and Luintel S. Health problems and social Consequences in teenage pregnancy in rural Kathmandu Valley. Nepal Med Coll J 2010 12(1): 42-44. [cited on 2016 May 20]. Available from: http://nmeth.edu/images/gallery/Editorial/DkEvDpp_kafle.pdf
11. World Health Organization. A fact sheet on adolescent pregnancy 2014 [internet] [cited on 2016 May 14]. Available From: <https://www.collegetermpapers.com/viewpaper/1303448205>
12. Babiker A, Knowledge, Attitude and Practice of

Early marriage in Eittondoub Area ,Aljazeera state.
University of Khartoum, Faculty of Medicine 2016.
[cited on 2016 June 22].Available from:<https://www.researchgate.net/publication/311873830>

13. NasrullahM, ZakarR, ZakarM, Kramer A,Abbas S. Knowledge and Attitude towards Child Marriage Practice among Women Married as Children –a qualitative study in urban slums of Lahore ,Pakistan ,2014 . doi: 10.1186/1471-2458-14-1148. [cited on 2016 June 22].Available from:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4289044/>
14. MontazeriS,Gharacheh M, Mohammadi N, Rad JA et al. Determinants of Early marriage from Married Girls Perspectives in Iranian Setting: A Qualitative Study. 2016. 30. doi: 10.1155/2016/8615929. [cited on 2016 June 22].Available from:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4829716>
15. ChaliseS,Bajracharya S. Contributing Factors of Teenage Pregnancy among pregnant Teenagers at selected Hospitals of Dhaurigiri Zone.2016. Available from: <http://cmc.edu.np/images/gallery/Original%20Articles/myz4iOR8-13.pdf>

Knowledge Regarding Prevention of Puerperal Sepsis among Post Natal Mothers at Selected Hospital in Kathmandu

Gyanu Maharjan,¹Sunita Rajbanshi,² Sudha Ghimire³

¹Kathmandu Model Hospital School of Nursing, ²Kirtipur Hospital, ³Facult of Health Education, Tribhuvan University

ABSTRACT

Background: Puerperal sepsis is an infection which arises from bacterial invasion of the genital organs during puerperal period. Knowledge of post natal mother for self care for prevention of puerperal sepsis is very crucial. Thus study intended to assess the knowledge of the postnatal mothers regarding prevention of puerperal sepsis.

Methods: A descriptive cross sectional research design was used in post natal ward of Kathmandu Model Hospital and Kirtipur Hospital from July to August 2017. Total 90 postnatal mothers were interviewed by using semi structure questionnaire. Data were analyzed by descriptive methods.

Results: Out of 90 post natal mothers one third (37.8%) were 23-28 years, among them almost half (53.3%) were married at the age of 20-25 years. Majority of respondents (77.8%) had knowledge about puerperal sepsis. More than half of the respondents (51.1%) obtained information of puerperal sepsis from their mother, friends and sisters. Regarding causes of puerperal sepsis majority of respondents (77.8%) answered the cause of puerperal sepsis is unclean perineal area. Almost all (93.3%) respondents opined that symptoms of puerperal sepsis are lower abdomen pain and foul vaginal discharge. More than half (57.8%) respondent had knowledge on appropriate time for resuming sexual relation. Regarding situation for cleaning the perineum, majority of respondents (88.9%) clean their perineum after each urination, where as few (24.4%) clean their perineum while bathing. Likewise more than half respondents (66.7%) used to clean their perineum by tap water. Cent percent respondents had poor knowledge on prevention of puerperal sepsis according to Bloom's cut off points.

Conclusion: There is still lack of knowledge among mothers regarding postnatal period, early ambulation and prevention of puerperal sepsis. Thus there is need for integration puerperal sepsis awareness education program into antenatal care services to prevent and control the puerperal sepsis becomes important in Nepalese context.

Keywords: Prevention; puerperal sepsis; puerperium; post natal.

BACKGROUND

Puerperal sepsis is a genital tract infection occurring at any time within the rupture of extra placental membranes or labor and the 42 day postpartum. Puerperal sepsis account one of the major cause of maternal morbidity and the second cause of maternal mortality in the developing world.^{1,2,13,14} Maternal morbidity in the post partum period is a major healthcare concern accounting for (11.6%) deaths.³ This accounts one of the major infections including puerperal pyrexia.⁴ Puerperal sepsis is the preventable causes of maternal death.^{5,15} which is preventable as they strongly depend on the quality of the provided care. According to NDHS (2017), postnatal period is important for counseling mothers on how to care for themselves and their newborns.⁶ Nepal government has recommended that a woman should receive at least three postnatal checkups, the first within 24 hours of delivery, the second on the third day following

the delivery, and the third on the seventh day after delivery. Geographical difficulties especially in hilly and mountain region are major obstacle for postnatal hospital care.⁷

A study result showed that the median percentage of overall knowledge regarding postnatal care among mothers was (51.2%) and that of practices regarding postnatal care among mothers was (33.3%). This showed that there was lack of practices in comparison to knowledge.⁸ Another study shows in the level of knowledge revealed that the majority (65%) of mothers in pre-test of experimental group were having average knowledge score (8-14), where in post-test majority (63.33%) of the mothers had a average knowledge score (8-14) and (36.66%) of mothers were having good (15-22) knowledge score.⁹

Therefore, it is important to increase the knowledge on prevention of puerperal sepsis among post natal women through public awareness and participation in creating

Correspondence: Gyanu Maharjan, Kathmandu Model Hospital School of Nursing, Faculty of Health Education, Tribhuvan University, ^{PhD Scholar} dt.gyanu@gmail.com

awareness is an important implementation strategy of reproductive health. In this aspect, post natal mothers are the best person for possessing information related to their health. So, study on the knowledge on prevention of puerperal sepsis with post natal mothers becomes important to decrease prevalence of puerperal sepsis.

METHODS

A descriptive cross sectional research design was used to find out the knowledge regarding prevention of puerperal sepsis among post natal mothers. The study was conducted by using non probability purposive sampling for selection of samples. Post natal mothers within seven days post natal period in post natal ward at Kathmandu Model Hospital and Kirtipur Hospital during one month from July to August 2017 were recruited.

Prior to data collection formal permission was taken from Institutional Review Committee (IRC) of Phect Nepal. Respondents were assured to maintain confidentiality and anonymity of collected information. Informed verbal consent was taken from the each respondent before collecting data. The researcher interviewed all respondents who were selected for research in ward by keeping screen for privacy using pre tested semi structured direct interview schedule in Nepali version. All collected data were reviewed, checked and rechecked daily for its completeness consistency and accuracy of information. These data were edited in field and coded properly entered to analyze data and reported in descriptive statistics. Such as frequency, percentage, mean and standard deviation, according to the nature of the variables.

RESULTS

Table 1. Socio-demographic Characteristics of Respondents (n=90).

Variables	Frequency	Percent
Age in years		
17-22	24	26.5
23-28	34	37.8
29-34	24	26.8
35-40	8	8.9
Age at Marriage in years		
14-19	24	26.6
20-25	48	53.3
26-31	18	20.1
Ethnicity		
Janjati	48	53.3
Bharmin	16	17.8
Chhetri	14	15.6
Others	12	13.3

Table 1 shows that majority of respondents were age group from 23 – 28 years with 34(37.8%) and 35- 40 years with 18 (8.9%). Most of the respondents marriage age group was of 20-25 yrs with 48(53.3%) respondent and least age group were 26-31 yrs with 18 (20.1%) respondent. In relation to ethnicity 48 (53.3%) respondent were Janjati.

Table 2. Cross Tabulation between Number of Gravid and Para (n=90).

Para		One	Two	Three
Gravida	One	48.9	0	0
	Two	15.6	20.0	0
	Three	0	11.1	2.2
	Four	0	2.2	0

Regarding number of gravid and para table 2 reveals that most of the respondents were primi (48.9%) where as few (2.2%) had fourth gravida and para.

Table 3. Respondent's Knowledge on Puerperal Sepsis (n=90).

Variables	Frequency	Percent
Symptom of puerperal sepsis (lower abdomen pain, foul vaginal discharge)	84	93.3
Meaning of puerperal sepsis (Infection of reproductive organs after delivery)	70	77.8
Occurrence of puerperal sepsis within 45 days.	24	26.7
Causes of Puerperal Sepsis (Unclean Perineal area)	70	77.8
Sign of puerperal sepsis (Fever more than 100.8oF)	46	51.1

*multiple responses

Regarding meaning of puerperal sepsis, table 3 displays that almost all of respondents' 84 (93.3%) reveals that symptoms of puerperal sepsis are lower abdomen pain, foul vaginal discharge. Majority of respondents' 70(77.8%) had knowledge about meaning and causes of puerperal sepsis. Few respondents 24(26.7%) shows knowledge on time period for getting puerperal sepsis.

Table 4. Knowledge of Hand Washing and Cleaning Perineum (n=90).

Variables	Frequency	Percent
Need of Hand washing *		
Before meal	86	95.6
After defecation	84	93.3
After changing pad	84	93.3
Before feeding the baby	88	97.8
After changing baby napkin	80	88.9
Hand washing material		
Soap water*	88	97.8
Condition of cleaning perineum*		
After each urination	80	88.9
Early in the morning	58	64.4
After defecation	54	60.0
While bathing	22	24.4
Frequency of cleaning perineum		
Once a day	8	8.9
Twice a day	4	4.4
Thrice a day	6	6.7
More than four times day	72	80.0
Solution used for clean perineum		
Tap water	60	66.7
Boiled water	36	40.0
Antiseptic solution	56	62.2

***multiple responses**

Regarding need of hand washing table 4 reveals that maximum response on before feeding the baby was 88 (97.8%) whereas 88.9% response on after changing baby's napkin. Regarding situation for cleaning the perineum, majority of respondent 80 (88.9%) used to clean their perineum after urination, where as 22 (24.4%) clean their perineum while bathing. Likewise 60 (66.7%) clean their perineal area with tap water, 36(40%) with boiled water.

Table 5. Knowledge on Uses of Perineal Pads (n=90).

Variables	Frequency	Percent
Type of perineal pad used		
Homemade pads	18	20.0
Sanitary pads	72	80.0
Time of changing perineal pad		
Every two hourly	30	33.3
Every four hourly	26	28.9
When wet	32	35.6
Others	2	2.2

Table 5 shows that 72 (80%) respondents respond of

using sanitary pads where as 18 (20%) respond of using homemade pads. Likewise they changed their perineal pad when it is wet is 32(35.6%).

Table 6. Preventive Measures of Postpartum Infection (n=90).

Variables	Frequency	Percent
Preventive measures of postpartum infection*		
Having nutritious diet	52	57.8
Wearing clean sanitary pads	46	51.1
Keeping in well ventilated and bright room	40	44.4
Having short nails	54	60.0
Importance of ambulation		
It helps to drain lochia easily which prevent from puerperal sepsis	60	66.7
Resume of sexual relation after delivery		
45 days	14	15.6
2 months - 5 months	52	57.8
6 months -1 year	20	22.2
Don't Know	2	4.4

***multiple responses**

Regarding preventive measures of postpartum infection above table 6 shows that more than half 54(60%) having short nails can prevents from puerperal sepsis, 52(57.8%) respond that having nutritious diet prevent puerperal sepsis. An importance of ambulation 60 (66.7%) respondent answered ambulation helps to prevent from infection as lochia drains. Almost half 52(57.8%) respondent had knowledge on appropriate time for having sexual relation.

DISCUSSION

Demographic finding of the study result revealed that among total study population 90 majorities (37.8%) of them belonged to the 23-28years age groups. Almost half (53.3%) of them married at 20-25 years age group where median age is 21. Study conducted by Sandhya T. and Rojana D. out of 196 respondents (40.31%) were in between the age group of 22-25 years which is almost similar to our research.¹⁰

In relation to gravida and para 48.9% were primigravida and (51.1%) were multi gravida. The study also indicated that most of the respondents (77.8%) had known the meaning of puerperal sepsis and few (26.7%) answered it occurrence within 45 days of child birth. One study was conducted over half responders (55%) correctly defined puerperal sepsis and its occurrence period. The study indicated that (35%) of the respondent had the knowledge about the cause of the puerperal sepsis which is unclean perineal

area. According to Trends in maternal mortality, Estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division (1990 to 2013) showed that Sepsis is caused due to of poor hygiene during delivery or of untreated sexually transmitted diseases (STDs), accounts for some (15%) of maternal deaths.¹⁸ More than half of the respondents (51.1%) and majority (93.3%) had knowledge regarding sign and symptoms of puerperal sepsis respectively. Regarding bathing (31.1%) respondent on nomenclature (Nwaran) day. The findings of the study were supported by the study conducted 41% of women answered that during puerperium they are not allowed to bath. Almost all respondents (97.8%) used to wash their hand by the use of soap and water before feeding the baby. Almost all respondent (95.6%) wash hand before meal, after defecation and changing pad. World Health Organization (WHO) has stated that to prevent sepsis, they promotes the observance of “six cleans” at the time of delivery: clean hands, clean perineum, clean delivery surface, clean cord and tying instruments, and clean cutting surfaces.¹⁸

Regarding cleaning the perineum, the study revealed that majority (88.9%) were cleaning the perineum after urination, (60%) after defecation. This finding is inconsistent to the study conducted with in port Harcourt teaching hospital, knowledge and practice of Perineal hygiene among postnatal mothers reveals 88% had knowledge and practice regarding cleaning of Perineal area after each emptying of bowel and bladder.¹¹

Timing of cleaning the perineum, the study revealed that majority (80%) more than four times a day and minority with 4.4% twice a day. Preferred solution for cleaning the perineum, more than half (66.7%) used tap water and minority (40%) boiled water.

Regarding type of perineal pad used, the study showed that most of (80%) of case used sanitary and few (20%) used homemade pads. The study also showed that (35.6%) change their pad when wet and 2.2% in others. The study revealed that almost all respondent (97.8%) had knowledge on during postnatal period mothers should stay in well-ventilated room and bright room where as few (2.2%) did not know about it. This contracted findings occurred related with different setting.

Regarding preventive measures from puerperal sepsis almost all (97.8%) respondents mentioned that good nutrition helps to prevent from puerperal sepsis few cases (2.2%) mentioned wearing dirty sanitary pads and similarly regarding importance of ambulation more than half (66.7%) mentioned puerperal sepsis can be prevented from regular ambulation helps to drain lochia, the finding is inconsistent with the

study conducted where only 22% of them considered physical exercises to be profitable to prevent from infection.^{16,19-20} Only (35.6%) of the respondent were aware that resuming sexual relationship 3 months after delivery. This is contrary from the study done in Vietnam to assess traditional postpartum practices among postpartum Vietnamese mothers in Anthi district Hung Yen Province north where sex abstinence from 2-6 months done by postnatal mothers.¹²

CONCLUSION

Overall knowledge level is poor. As Education plays an important role in the prevention of puerperal sepsis the integration puerperal sepsis awareness education program into antenatal care services to prevent and control the puerperal sepsis in becomes important Nepalese context.

REFERENCES

1. Violet M, Mph C, Nyamari J, Keraka M. Associated factors with puerperal sepsis reproductive age women in nandi county. Kenya among. *J Midwifery reprod heal*. 2017;5(4):1032–40.
2. Budderburg B. Puerperal sepsis in the 21 st century. progress new challenges and the situation worldwide. *Postgraduate medical journal*. post grad med J. 2015;9(1):78-98.
3. Malla R. Manadhar R. Puerperal morbidities after delivery in a tertiary care referral hospital of Nepal. *Med J Shree Birendra Hosp*. 2016;15(2):8-12.
4. lalitha H. A study to assess the knowledge and practice of postnatal mothers on prevention of selected puerperal infection in a selected maternity hospital. *Int j Med Heal Res*. 2016;2(2):3-
5. Momoh MA, Ezugworie OJ, Ezeigwe HO. Causes and management of puerperal sepsis. The health personnel view point. 2010;4(3):154-8.
6. Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action. New York; 2015.
7. Nepal demographic and health survey. Ministry of Health. 2016; Kathmandu:2017.
8. Shah T. Knowledge and Practice Regarding Postnatal Care among Mothers Residing In Selected Slum Area of Dharan, Nepal. *Int J Heal Med*. 2016;1(1):1–4.
9. Lecturer N, Students N. Knowledge Regarding Puerperal Sepsis And Its Prevention. *J Int Acad Res Multidiscip*. 2015;3(4):29–34.
10. Timilsina S, Dhakal R. Knowledge on postnatal care

-
- among postnatal mothers. Saudi Journal of Medical and Pharmaceutical.2015; 1(4):87-92.
11. Shrestha T, Bhattari SG, Silwal K. Knowledge and practice of postnatal mother in new born care. JNMA.2013; 52(190):372-7
 12. Minh L T, Wanawipha P, Oratai R. Traditional postpartum practices among postpartum Vietnamese mothers in Anthi district Hung Yen Province North Vietnam. sept. 2012.
 13. Dutta DC. Textbook of obstetrics. India: 6th ed. New Central Book Agency Publication; 2004.
 14. Brentlinger P, Capps L. Pregnancy outcomes in El Salvador during the post war period. International J. Gynaecology & Obstetrics. 1998; 61: 59-62
 15. Bennett VR, Brown L K. Textbook for Midwives. UK:12thed.Churchill Livingstone; 2000.
 16. Tuladhar H, Khanal R, Kayastha S, Shrestha P. Complications of home delivery: Our experience at Nepal Medical College Teaching Hospital;2009.
 17. Upadhyaya I. Maternal Death Reviews at a Tertiary Care Hospital. JNMA J Nepal Med Association. 2014; 52(193):713-8
 18. Trends in maternal mortality: 1990 - 2013. Estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division; 2014.
 19. Pradhan B, Duwal SS, Singh A, Bhandary S, L RC, Shrestha R. Puerperal Sepsis and its Cause in Patan Hospital: Nepal Journal of Obstetrics and Gynaecology.2015;10
 20. Chepchirchir M V. Occurrence and Management of Puerperal Sepsis amongst Women of Reproductive Age (15-49) Attending Two Hospitals: Nandi County, Kenya; 2014.

Factors Influencing Family Planning Service Utilization among Women Attending Family Planning Clinic, Kathmandu

Shanta Shah¹, Saraswoti kumari Gautam Bhattarai²

¹ Bir Hospital, ² Maharajgunj nursing campus,

ABSTRACT

Background: Utilization of family planning service in developing countries has been found to avert unintended pregnancies, reduce maternal and child mortality, however, its usage still remains low. Hence, the objective of this study was to find out the factors influencing family planning service utilization among women.

Methods: A descriptive cross sectional study was conducted in family planning clinic of Tribhuvan University Teaching Hospital (TUTH) Kathmandu. A non-probability purposive sampling technique was used to select the sample. Total 74 women were interviewed by face to face semi-structured interview schedule in nepalese version. Analysis and interpretation of the findings were done by using simple descriptive and inferential statistics.

Results: The study shows that different factors influences for the utilization of family planning which were presence of husband (94.6%), satisfied with behavior of health worker (98.6%), getting the facility of choice in near distance (98.6%), discuss with husband before use of family planning devices (97.3%), husband's support (98.6%), and education of women (81.1%) and education of the husband (93.2%), influenced the family planning service utilization.

Conclusion: Education status of women and husband, support from husband identified crucial. Also far distance and fear of side effect of family planning methods among women play major factors in family planning service utilization. Therefore, the provision of family planning service in short distances and counseling is needed to increase the family planning service utilization.

Keywords: Family planning; service utilization; reproductive age woman.

BACKGROUND

Family planning allows people to attain their desired number of children and determine the spacing of pregnancies. Promotion of family planning and ensuring access to preferred contraceptive methods for women and couple is essential to securing the well-being and autonomy of women.¹ Family planning can prevent unwanted pregnancies and unsafe abortions. It has proven to reduce maternal and child mortality.² Use of contraceptive methods prevented over 250 000 maternal deaths through further 30% in developing countries, if all women who wish to avoid pregnancy use an effective contraceptive method.³

Of the 210 million pregnancies occur each year, almost 80 million are unplanned. Each year, approximately 42 million pregnant women seek termination of their unplanned pregnancy.⁴ According to the United Nations report on Trends in Contraceptive Use, 64 percent of married women of reproductive age worldwide were using some form of contraception. However, contraceptive use was much lower in the least developed countries (40 %) and was particularly

low in Africa (33%). In the group of least developed countries traditional methods of contraception account for 27% of all contraception use, a proportion far higher than that in the more developed regions⁵

Family planning services are available through government, social marketing, and private health facilities and are available free of cost in public health facilities. Currently, temporary family planning methods (male condoms, pill, and injectable) are provided on a regular basis through health posts, sub health posts, primary health care Outreach Clinics, and periphery level health workers and volunteers (condoms and resupply of pills). Methods such as IUCD and implants are available at selected hospitals, primary health care centers, and health posts where trained human resource is available. Depending on the district, sterilization services are provided at static sites or through scheduled "seasonal" or mobile outreach services. Almost all district Family planning, maternal and child health (MCH) clinics supply all temporary Family planning methods.⁶

According to the Nepal Demographic and Health

Correspondence: Saraswoti kumari Gautam Bhattarai, Maharajgunj nursing campus, Email: saraswotigautam@gmail.com

Survey the total fertility rate in Nepal was 2.6. About 49% of Nepalese women are in the reproductive age of 15-49 years. Modern contraceptive use has not increased, and discontinuation rates of 51% were seen in Nepal.⁷ Distrust in modern reversible methods and the absence of service facilities in remote rural as well as hilly areas of Nepal have been identified as the main barriers to the adoption of family planning.⁸ Other major reasons cited for not using family planning services included husbands opposition against their wives using family planning services, Women cannot take decisions for themselves without the approval of their husbands, who are regarded as the head of the family. Therefore it makes women more unlikely to use contraceptives if their husbands disagree. Another major reason that was reported were some perceived misconceptions about family planning services, those contraceptives were harmful to the womb.² Most obstacles to modern contraceptive use in Asian countries are related to limited knowledge, women's autonomy, misconception, cultural and health system barriers.³ Therefore this study aims to find out the factors influencing family planning service utilization among women.

METHODS

Descriptive cross sectional design was used to find out the factors influencing family planning service utilization among women. This study was conducted in Family Planning clinic of Tribhuvan University Teaching Hospital (TUTH) Kathmandu with 74 women of reproductive age having at least one living children and used any type of family planning method except natural method at least one time before. Non-probability purposive sampling method was used. Women of a reproductive age who came for family planning service and available at the time of data collection were included. Pre-tested semi-structure interview questionnaire was used for data collection. The reliability of the instrument was maintained by translating the instrument in common language that is in Nepali. Analysis of data was done by using descriptive and inferential statistics.

RESULTS

Higher proportion of the respondents (31.1%) were between 25-29 years of age, 52.7% respondents belongs to Janajati group and 86.5% belongs to Hindu religion. Regarding the education; Most (81.1%) of respondents were literate and only 18.9% were illiterate. Regarding education of respondent's husband, 93.2% were literate and 6.8% were illiterate. Likewise, 55.4% respondents were house maker and 4.1% were involved in Agriculture. Similarly, regarding the occupation of respondent's husband 33.3% were involved in service,

others were unemployed and students.

Among the total respondents 70(94.6%) respondents living with husband and only 4(5.4%) respondents did not with husband. Similarly, 61(82.4%) respondents have 2 children and only 13(17.6%) respondents have more than 2 children. Likewise 23(31.1%) respondent's youngest child age was between 6 to 10 years, 22 (29.7%) respondents above 1-5 year, and 19 respondents between above 10 year only 10(13.5%) respondent's youngest child age was up to 1 year. Among them, 44 respondents youngest child's sex was male (59.5%) and 30(40.5%) respondents youngest child sex was female. Similarly, 40(54.1%) respondents have sex preference and only 34(45.9%) respondents did not have sex preference.

Table 1. Source of Information Related Factors (n =74).

Factors	Frequency	Percent
Source of Information*		
Health service Provider	50	67.6
Friends/Relatives	39	52.7
Television	21	28.4
Radio	16	21.6
Newspaper	3	4.1
Poster	1	1.4
Drama	1	1.4

*multiple response

Concerning the source of information; 50 (66.1%) respondents received information from health service provider, 16 (21.6) respondents from Radio, 3(4.1%) from newspaper, 39(52.7%) from friends/Relatives, 21(28.4%) from Television, and minority received from poster and drama that is 1(1.8%). Among them 54 (73.0%) respondents had not heard of rumors, only 20 (27.0%) heard of rumors. Similarly, 28(37.2%) respondents reject the family planning service utilization due to fear of its side effect, but majority 46(62.2%) respondents did not reject the family planning service utilization due to fear of its side effect.

Table 2. Motivating Factors of Family Planning Service Utilization (n =74).

Factors	Frequency	Percent
Distance		
<30 minutes	47	63.5
30-60 minutes	19	25.7
>60 minutes	8	10.8
Get the facility of choice		
Yes	73	98.6
No	1	1.4
Health worker behavior		
Satisfied	73	98.6
Not satisfied	1	1.4
Decision making		
Self	24	32.4
Husband	3	4.1
Both	47	63.5
Discuss with husband		
Yes	72	97.3
No	2	2.7
Husband support		
Yes	71	98.6
No	1	1.4

Regarding the motivating factors; nearly half that was 47(63.5%) respondents had distance <30 minutes, 19(25.7%) respondents had distance between 30-60 minute and only 8(10.8%) respondents had distance more than 60 minutes. Similarly 73(98.6%) respondents got the facility of choice and only 1(1.4%) respondent did not get the facility of choice, 98.6% of respondents satisfied with behavior of health worker and only 1.4%. Likewise, 72(97.3%) respondents discussed with husband before family planning use and only 2(2.7%) respondents did not discuss with husband before utilization. Regarding the decision making, 24(32.4%) respondents made decisions by themselves, 3(4.1%) of them by husband and 47(63.5%) by both, Among the respondents who discussed with husband before family planning use, 73(98.6%) have a husband support and only 1(1.4%) respondents did not have husband support. Besides this (75.7%) respondents currently use family planning method of their choice and few (24.3%) respondents not using any family planning methods currently.

Table 3. Association between Service Utilization and fertility Related Factors (n=74).

Factors	Family Planning Service Utilization		P – Value
	Yes	No	
Living with husband (n %)		(n %)	
Yes	56(100.0)	14(77.8)	0.000*
No	0(0.0)	4(100.0)	
Number of living children			
1-2	44(78.6)	17(94.4)	0.124
>2	12(21.4)	1(5.6)	
Age of youngest child			
Up to 1 year	9(16.1)	1(5.6)	0.256
Above 1 year	47(83.9)	17(94.4)	

* statistically significant at <0.05

There was statistically significant association between presence of husband (P=.000) and family planning service utilization but there was no significant association between number of living children, age of the youngest child, sex of the youngest child, sex preference, and utilization of family planning services.

There was significant association between presence of husband (P=.000) and family planning service utilization but there is no significant association between number of living children, age of the youngest child, sex of the youngest child, sex preference, and utilization of family planning services.

Table 4. Association between Service Utilization and Socio-Culture factors (n=74).

Factors	Family Planning Service Utilization		P – Value
	Yes	No	
Heard of rumors	n (%)	(n %)	
Yes	13(23.2)	7(38.9)	0.193
No	43(76.8)	11(61.1)	
Fear of side effect			
Yes	16(28.6)	12(66.7)	0.004*
No	40(71.1)	6(33.3)	

* Statistically significant at <0.05

There was significant association between rejection of family planning service utilization due to fear of side effect ($P=.0004$) and family planning service utilization but there is no significant association between heard of rumors and utilization of family planning services.

Table 5. Association between Service utilization and Motivating Factors (n=74).

Factors	Family Planning Service Utilization		P – Value
	Yes	No	
	(n %)	(n %)	
Distance			
Less than 60 minute	54(96.4)	12(66.7)	.000 *
More than 60 minute	2(3.6)	6(33.3)	
Get the facility of choice			
Yes	56 (100.0)	17 (94.4)	.076
No	0 (0.0)	1 (5.6)	
Satisfied with behavior of health worker			
Yes	56(100.0)	17(94.4)	.076
No	0(0.0)	1(5.6)	
Discuss with husband before use			
Yes	55(98.2)	17(94.4)	.391
No	1(1.8)	1(5.6)	
Husband support			
Yes	55 (100.0)	16 (94.1)	0.70
No	0(0.0)	1 (5.9)	

* Statistically significant at < 0.05

There was statistically significant association between distance and family planning service utilization but there was no statically significant association between selected variable (getting the facility of choice, satisfied with behavior of health worker, discuss with husband before use and husband support) and utilization of family planning services. However, there was a relationship between selected variable and family planning service utilization.

DISCUSSION

Higher proportion of the respondents (31.1%) were between 25-29 years of age 52.7% of the respondents belongs to Janajati, 81.1%) were literate and only 18.9% were illiterate. Among the literate half (50.0%) were secondary level and only 16.7% were primary level. Similar findings was found in study done in Kathmandu, that a total of 56.1% of illiterate women had used contraceptive methods, while for others who had received primary, secondary, this rate was 59.5% and 60.8 respectively.⁹ Regarding the education of

respondent's husband, 93.2% were literate. Among, literate majority (50.7%) were secondary level, which is supported by the study done by.¹⁰ Furthermore 55.4% respondents were house maker and 4.1% were involved in Agriculture. Majority (33.3%) respondent's husband were involved in service and minority (1.8%) were involved in others (others involved student and un-employment). In contrast study done in Nepal showed the level of contraceptive use was higher among women engaged in manual work (53%) than among women who were not working and those working in the agriculture sector (34%).¹¹

Majority (94.6%) of respondents who stayed with husband utilizes family planning service which is supported by NDHS (2011)⁷ report; use of modern methods is 53 % in women whose husbands are living with them. Majority of the (82.4%) users have 2 children, majority of respondent's sex of their youngest child was male (59.5%) and they have sex preference (54.1%) and minority of the respondents did not have sex preference (45.9%) and sex was female (40.5%). In contrast, NDHS report (2011)⁷ showed that there is association between use of family planning methods and the number of children women have, except in the case of women with five or more children. Only 12 % of women with no living children use contraception; the percentage increases to 47 % among women with one or two children and 65 % among women with three or four children before declining to 54 percent among women with five or more children.⁷

Majority (66.1%) of the respondents received information from health service provider, and minorities from minority received from poster and drama (1.8%), which is supported by the study conducted in Tanzania, that a big portion of users relied on information from health facilities or reproductive health clinics (65.8%).¹² Another study done in Ghana, findings suggest that, Health workers were the main source of family planning information followed by friends and relatives and then by radio. Newspaper sources contributed the least to family planning information.¹³

Regarding the socio-culture factors, majority (73.0%) of the respondents did not heard of rumors or did not have any misconception, only (27.0%) respondents did heard of rumors. Which is supported by the study done in Ghana, that major reasons for not accessing family planning services were opposition from husbands, 90% and misconceptions about family planning (83%).² Similarly, 37.2% respondents reject the family planning service utilization due to fear of its side effect, but majority of the respondents that is 62.2% respondents were not reject the family planning service utilization due to fear of its side effect, similarly

finding was found in a study done in Uganda, that fear of side effects (88.2 %) among the leading reasons for non-use and discontinuation of contraceptive use.¹⁴

The study reveals that all the motivating factors influence the family planning service utilization. Majorities (63.5%) of the respondents have distance <30 minutes, 25.7% respondents have distance between 30-60 minute and only 10.8% respondents have distance more than 60 minutes which is supported by a study done in Uganda revealed that the most of family planning user resides in less than a Km (41.8%), in a distance of 2-5 km 30.2% and least 6 km that is 17.0%.¹⁴

About 98.6% respondents get the facility of choice, 97.3% respondents discussed with husband before family planning use. Regarding the decision making, majorities (63.5%) respondents made decisions by both. Among the respondents who discussed with husband before family planning use, 98.6% got support by husband. Consistent findings were found in study done in Kahama district that non availability of contraceptive methods for users (93%) was reported as a factor that hinder the use of contraceptives. Users of contraceptive methods (30.7%) reported that refusal by husband/partner as one of the factors that hinder the use of contraceptive methods while 69.3% of non-users because of refusal by husband or partner. About 89% of the users of contraceptive methods indicated that they had partner support.¹²

There was no statistically significant association between socio-demographic characteristics and family planning service utilization. This may be due to small size. Respondents who were literate (78.3%) were more likely to utilize family planning service. In consistent with the study, marital status, age group and religion were not statistically significant.² A study done in Uttar Pradesh India, showed that the socio-demographic status of the women did not have a bearing on the use of contraception ($P>0.05$).¹⁵ But a study done in Ghana, educational level of respondents was positively associated with usage of family planning services ($p<0.05$).

There was statistically significant association between presence of husband ($P=.000$) and family planning use but there was no significant association between number of living children, age of the youngest child, sex of the youngest child, sex preference and family planning services utilization. Similar findings were reported in a study done in Nuwakot district; that, there is direct relationship between contraceptive use by a woman and the presence or absence of her husband. The main (43.4%) reason for not adopting the family planning devices was due to husband being abroad⁵. In contrast, the odds of using family planning

methods was increased significantly after two or more children (for 2-3 children $OR= 15.33$ and for more than 3 children $OR=5.52$).¹⁵

There was statistically significant association between rejection of family planning service utilization due to fear of side effect ($P=.0004$) and family planning service utilization but there is no significant association between heard of rumors and utilization of family planning services.

Study reveal that there was statistically significant association between distance) and family planning service utilization but there was no statically significant association between selected variable (getting the facility of choice, satisfied with behavior of health worker, discuss with husband before use and husband support) and utilization of family planning services. Study conducted in Ghana concluded that, family planning facility less than 5 km away was more likely to influence modern family planning use compared to if it was located more than 5 km away ($OR = 3.63$, 95% C.I 1.38- 9.55).¹³ In contrast, about 89% of the users of contraceptive methods indicated that they had partner support. This shows that there was a significant association between husband/partner support and the use of contraceptive methods ($P<0.001$). Majority (69%) of non- users also indicated partner support is important in the use of contraceptive methods. Users of contraceptive methods (30.7%) reported that refusal by husband/partner as one of the factors that hinder the use of contraceptive methods while 69.3% of non-users reported it because of refusal by husband or partner.¹²

CONCLUSIONS

In conclusion, education of women and her husband, presence of husband, distance, satisfied with behavior of health worker, getting the facility of choice, discussed with husband before use, and husband support influenced in family planning service utilization. There was statistically significant association between selected variable namely presence of husband, rejection of family planning use due to fear of its side effect and distance and family planning use. Far distance and fear of side effect of family planning methods among women play major factor in family planning service utilization. Therefore, the provision of service in short distances and counseling is needed to increase the family planning service utilization.

REFERENCES

1. World Health Organization. Family planning/contraception fact sheets 2015.: Retrieved from <http://www.who.int/mediacentre/factsheets/fs351/en>
2. Apanga PA, Adam MA. Factors influencing the uptake

-
- of family planning services in the Talensi district, Ghana. : The Pan African Medical Journal 2015 Jan; 20 (10): 1-9.
3. Najafi-Sharjabad F, Yahya SZS, Rahman HA, Hanafiah M, Manaf RA. Barriers of modern contraceptive practices among Asian women: A mini literature Review. Glob J Health Sci. 2013 Sep;5(5):181. Global Journal of Health Science; 2013 Jul;5(5):181-92.
 4. Izale K, Govender I, Fina J. P. L., & Tumbo J. Factors that influence contraceptive use amongst women in Vanga health district, Democratic Republic of Congo. African journal of primary health care & family medicine: 2014; 6(1), 1-7.
 5. Karki S, & Karkij K. Knowledge and practice of family planning methods among married women of reproductive age of Kakani VDC, Nuwakot district, Nepal.: AI Ameen J Med Sci. 2016; 9(1): 24-29.
 6. Shrestha DR., Shrestha A, Ghimire J. Emerging challenges in family planning programme in Nepal. J Nepal Health Res Council: 2012 May; 10(21): 108-12.
 7. Population Division Ministry of Health and Population Government of Nepal, Kathmandu Nepal: NDHS. 2011.
 8. Maharjan M, Tongkumchum P, Kakchapati S. Social determinants of discontinuation of depo-provera among married women in Nepal. Edo J Pub H. 2016; 3: 1-6.
 9. Bhandari N, Shrestha GK, Thakuri PC. Study of factors affecting contraceptive use among married women of reproductive Age. J Col Med Scie-Nep. 2013; 9(4): 24-29.
 10. Gubhaju B. The differential impact of wives and husbands education on contraceptive method choice in Nepal 1996-2006, (2008). Retrieved on July 19, 2016 from <https://www.dhsprogram.com/pubs/pdf/WP54/WP54.pdf>
 11. Sharma SK, Ghimire DR, Pratap N. Ethnic differentials of the impact of Family Planning Program on contraceptive use in Nepal.: Demographic Research. 2011; 25(27):837–868.
 12. Michael EJ. Use of contraceptives methods among women in stable marital relations attending health facilities in Kahama district, Shinyanga region, Tanzania. Muhimbili University of Health and Allied Sciences: 2012.
 13. Eliason S, Williams A, Eliason JK, Novignon C, Nonvignon J, & Aikins M, Determinants of modern family planning use among women of reproductive age in the Nkwanta district of Ghana: a case-control study: BMC Reproductive Health. 2014 Aug; 11(1).
 14. Orach CG, Otim G, Aporomon JF, et al. Perceptions, attitude and use of family planning services in post conflict Gulu district, northern Uganda: BMC conflict & Health. 2015 Aug; 9(1):1.
 15. Shaikh S, Dwivedi S. Predictors to use of family planning methods among women of Allahabad district, Uttar Pradesh: Health & population-perspective & issues. 2014; 37(3&4) :118-127.

Awareness on Menopausal Syndrome among Women of Selected Community in Biratnagar

Deepika Khadgi¹ Shruti Khatiwada¹

¹ Nursing Campus Biratnagar

ABSTRACT

Background: Menopause is an event not a disease. With increase in life expectancy throughout the world, most of the women live through menopause. Menopausal symptoms are experienced by women of all socio-economic condition, race, height or weight, however, the period of climacteric may range from 5-10 years on either side of menopause. Therefore the aim the study was to assess awareness on menopausal syndrome.

Methods: A descriptive study was carried out with the aim to assess the awareness on menopausal syndrome among women. Non-probability purposive technique was used for sample selection and sample size was 71. Semi-structured questionnaire was administered to collect data related to demographic information, awareness on menopausal syndrome, common physiological and psychological symptoms experienced by respondents. Study was conducted only after the approval of concerned authorities of TU, IOM, Nursing Campus Biratnagar and Ward Committee Office of Ward no 6. Informed consent was obtained from each respondent prior to interview and confidentiality was maintained throughout the study.

Results: The findings revealed that out of 71 respondents, majority (64 .17%) were of 45-50 years age group and 52.82% of the women had attained menopause at the age of 50-52 years. Most of the (83.5%) women were aware about menopausal syndrome. Majority (63.4%) of women believed that menopause occur between age of 51-55 years. Joint and back pain (96.07%) and tiredness (86.27%) were common physiological symptoms; and forgetfulness (83.33%) and sleep disturbance (66.66%) were commonly experienced psychological symptoms.

Conclusion: It can be concluded that the majority of women had adequate awareness, most of them were experiencing different types of physical and physiological symptoms associated with menopause. Therefore, awareness program on menopausal syndrome management is important.

Keywords: Menopause; physiological ; psychological symptoms.

BACKGROUND

Menopause means permanent cessation of menstruation at the end of reproductive life due to loss of follicular activity of the ovaries. It is a stage when the menstrual cycle stops for longer than 6 consecutive months and there is sharp fall in the levels of estrogen and also the trophic hormones.¹

Menopause is derived from the Latin words meno (month) and pausia (halt, stop) it implies the cessation of monthly period, marks the end of a woman's period of natural fertility.² During the 19th century, menopause and death occurred at roughly the same ages. In 1990, there were an estimated 467 million women aged 50 years and over in the world. At present due to increased life expectancy, the average woman who reaches menopause live 30 more years after the menopause and this number is expected to increase to 1200 million by the year 2030.³ Each year 18th October has been celebrated as "World Menopause Day".

Worldwide, the estimates for the median age at menopause range from 45 to 55 years with women from Western countries having a higher menopausal age compared to women from other parts of the world. A variety of physiological changes takes place in the body. Some of these are the result of cessation of ovarian function and related menopausal events while others are a function of the ageing process. Many women experience symptoms around the time of menopause, most of which are self-limiting and not life-threatening, but are none the less unpleasant and sometimes disabling.⁴

Menopause may be smooth experience for some women with only symptoms of cessation of menstrual flow while others face one or more of postmenopausal symptoms.⁵ Major cause of ill health among elderly women include cervical and breast cancers, osteoporosis, post-menopausal bleeding and mental depression. Many of these problems are usually silent

Correspondence: Deepika Khadgi, Nursing Campus Biratnagar,
Email: deepkhadgi@gmail.com

and unrecognized in the early stages; hence the fatality is associated with them in the post-menopausal period.⁶

Many women feel that menopause is a subject that should not be discussed as it is embarrassing. However by keeping quiet, we may serve to frighten the women about what is happening to their bodies. So knowledge and awareness can be coordinated together to maintain complete health and fitness⁷ but there is a lack of awareness of its cause, effect and management pertaining to it. A wide gap in the knowledge has been documented in the women from developed and developing countries.⁵

In Nepal, the importance of these health issues is increasing with the aging of the population, yet women are often unable to access adequate health care due to trend gender structures and misconceptions regarding menopause. Because of the lack of information on menopausal syndrome women are misled and are facing various problems.² Therefore the study was done to find out the awareness on menopausal syndrome among women.

METHODS

Descriptive research design was used to obtain information on awareness of menopausal syndrome among women. Women of age group between 40-54 years living in ward no 6 of Biratnagar sub-metropolitan city were the population of the study and the non-probability purposive sampling technique was used for selection of samples for the study. Total 71 samples were selected meeting the inclusion criteria and who were willing to participate in the study. For measuring the research variables, interview schedule was developed by reviewing related literature which consisted of items related to socio-demographic information and awareness of menopausal syndrome and was administered for data collection. Study was conducted only after the approval from the concerned authorities of Biratnagar sub-metropolitan office and ward office. Informed consent was obtained from each respondent by explaining the nature and purpose of the study. None of the participants was forced to participate and right was given to discontinue at any point of the study. 20-25 minutes time was allocated for each respondent for data collection using the pretested interview schedule. Confidentiality was maintained throughout the study and the collected data was used only for the study purpose. Each day collected data was checked and edited for its completeness. Data was coded and entered in Statistical Package for Social Science (SPSS) for analysis. Descriptive Statistics that is frequency, percentage and median, was used to assess the knowledge regarding awareness on menopausal syndrome.

RESULTS

Findings of demographic variables and the awareness of menopausal syndrome among women are presented in frequency and percentage.

Table 1. Socio- demographic Characteristics of Respondents (n = 71) .

Variables	Frequency	Percent
Age in Years		
45 – 49	40	56.33
50 - 54	31	42.46
Educational Status		
Illiterate	11	15.5
Primary Level	37	52.1
Secondary Level	23	32.4
Ethnicity #		
Disadvantages non dalitterai caste groups	13	18.3
Relatively advantages Janajati	12	16.9
Upper caste groups	46	64.8
Occupation		
Service	22	31.0
Non- Service	49	69.0

#According to the classification of HMIS

Among the total sample, 56.33% of the studied women were of age group 45-49 and 42.46% were of 50-54 age group. More than fifty percentages (52.1%) of the total respondents had education of primary level whereas 11% were illiterate. Majority (64.8%) of the women were from upper cast group (Brahmin and Chettri) whereas 18.3% belonged to disadvantaged non Dalit Terai caste group (Mandal and Dev) and 16.95% belonged to relatively advantaged group (Shrestha and Pradhan). Majority (69.0%) of the women were homemaker and 31.0% were service holders.

Table 2. Information related to Menopause (n = 53).

Variables	Frequency	Percent
Duration of Menopause		
≤ 3	32	60.37
≥ 4	21	39.63
Age of Menopause		
44 – 46 Years	6	11.32
47 – 49 Years	21	39.62
50 – 52 Years	28	52.82
Nature of Menopause		
Natural	40	75.47
Surgical Hysterectomy	13	24.53

Regarding the information on characteristics of menopause, 74.64%(53) of the respondents had experienced menopause at the time of interview and the rest were at peri-menopausal period. Among them, 60.37% of the respondents had been experiencing menopause for three or less than three years and more than half (52.82%) had achieved menopause at age (50-52) years. Natural occurrence of menopause had been in 75.47% of them whereas 24.53% of the women had attained menopause after surgical hysterectomy done for various gynaecological problems.

Table 3. Common Physiological Symptoms (n=51).

Physiological symptoms*	Frequency	Percent
Joints and back pain	49	96.07
Tiredness	44	86.27
Decrease vision acuity	33	64.70
Palpitation	32	62.74
Weight gain	28	54.90
Vaginal dryness	27	52.94
Night sweat	24	47.05
Hot flushes	19	37.25
Loss of sexual interest	12	23.52
Body temperature fluctuation	12	23.52

*multiple responses

Table shows that 71.84% of the studied women experienced physiological symptoms while 76.5% of them experienced psychological symptoms.

Ninety six percentage of the studied women reported of experiencing joints and back pain as common physiological symptoms of menopause while tiredness was the second most common (86.27%) physiological symptoms experienced. More than sixty percentage (64.70%) of them also experienced decrease in visual acuity followed by palpitation (62.74%), weight gain (54.90%) and vaginal dryness (52.94%) respectively.

Table 4. Common Psychological Symptoms Experienced by the Respondents(n=51).

Symptoms*	Frequency	Percent
Forgetfulness	45	83.33
Sleep disturbance	36	66.66
Irritability	23	42.59
Anxiety	19	35.18
Mood swing	6	11.11

*multiple response

The most common psychological symptoms experienced by the women was forgetfulness (83.33%) followed by sleep disturbance (66.66%), irritability (42.59%) and anxiety (35.18%) respectively.

Table 5. Level of Awareness on Menopausal Syndrome (n=71).

Awareness	Frequency	Percent
Adequate awareness (> 50%)	59	83.1
Inadequate awareness(≤ 50%)	12	16.9

Findings revealed that peer group (39.45%) and mass media (18.3%) were the common sources of information from where the women gained information on menopause and its symptoms. Regarding the awareness on menopausal syndrome, further 83.1% of the respondents had adequate awareness which was calculated based on the median score (12) out of total score.

DISCUSSION

In this study, majority (64.17%) of the women were in age group of 45-50 years. Among 71 studied sample, 52.82% of the women had attained menopause at the age of 48-55 years which is similar to the age of menopause (51yrs) reported by National Institute on Aging.⁸

Also, it was found that most of the women were aware about menopausal syndrome i.e.83.1% and only 16.9% were unaware. This is consistent with the findings of Mustafa and Sabir⁹ which showed that 74% of women were aware about menopause and had previous knowledge about symptoms whereas in contrast the findings of the study done on three MCH centre in Tanta city¹⁰ and in Pakistan¹¹ revealed that majority of the women 72% and 74.3% respectively had poor knowledge.

In this study, 71% of the women were experiencing physiological symptoms. The most common symptom reported by the respondents was joints and back pain (96.07%) followed by tiredness (86.27%) and decreased visual acuity (64.70%) which is supported by the study done by Nusrat et al.¹² which revealed backache (75.66%) and body ache (66.74%) as the common symptoms experienced by the women. Literature suggests that joint and back pain is the common and massive problem of women going through peri-menopause and menopause.¹³ Whereas, on contrary to the findings of the present study, different studies revealed that sexual problem, hot flushes, vaginal dryness and change in sexual activities were the common physiological symptoms experienced by the women.^{2,14}

Findings of the study revealed that 76.5% of the women were experiencing psychological symptoms which included forgetfulness (83.33%) as the most common

and the finding is similar to the study conducted in Erbil City, Iraq⁹ whereas the study conducted among 75 menopausal women in America explored the problem of memory loss as the common psychological symptoms.¹⁵ These differences in frequencies of symptoms may be attributed to the difference in race, lifestyle, culture and diet.

CONCLUSIONS

It is concluded that most of the respondents were aware about menopausal syndrome. Of which three fourth had experienced physiological and psychological symptoms. Thus it is recommended to conduct health campaigns on the measures for management of physiological and psychological symptoms of menopause.

REFERENCES

1. Dutta DC. Textbook of gynaecology. 4th ed. New Central Book Agency (P) Ltd. Jaypee; 2003.
2. Ghimire N, Dhakal P, Norrish P, Sharma D, Dhimal M, Aryal K, et al. Menopausal Health Status of Women of Kapilvastu District of Nepal. Journal of Nepal Health Research Council 2015 Dec [cited 2016 Mar 17];13(3):6217. Available from <http://jnhrc.com.np/index.php/jnhrc/article/view/669>.
3. Lim HK, Mackey H. The menopause transition experiences of Chinese Singaporean women: An exploratory qualitative study. J Nur Res [Internet]. 2010 [cited 2012 Jun];20(2). Available from [http://www.twna.org.tw/TWNA_BACKEND/upload/web/ePublication/7294/JNR20\(2\)p.81-89.pdf](http://www.twna.org.tw/TWNA_BACKEND/upload/web/ePublication/7294/JNR20(2)p.81-89.pdf)
4. Rees M. Alternative treatments for the menopause. Best Pract Res Clin Obstet Gynaecol [Internet]. 2009 Feb [2008 Nov];23(1):151-61. Available from <https://www.ncbi.nlm.nih.gov/pubmed/19010734> doi: 10.1016/j.bpobgyn.2008.10.006.
5. Bhatia B, Puri S, Mangat C. Perception of menopause and postmenopausal bleeding in women of Chandigarh. The Int J of FamPrac [Internet]. 2008 [cited on 2013 Jul];6(2):1-6. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3952411/>
6. World Health Organization (WHO). Women, ageing and health: A framework for action: focus on gender [Internet]. 2007. 61p. Available from <http://www.who.int/ageing/publications/Women-ageing-health-lowres.pdf>
7. KalaBarathi S, Kalavathi S. Assessment of knowledge on signs and symptoms of menopause among premenopausal women. IOSR-JNHS [Internet]. 2014 Mar;3(2):33-37. Available from <http://www.iosrjournals.org/iosr-jnhs/papers/vol3-issue2/Version-3/D03233337.pdf>
8. National Institutes of Health. Menopausal symptoms: In depth. US Department of Health and Human Services [Internet]. 2017 May. Report no. D406. Available from <https://www.nih.gov/about-nih/what-we-do/nih-almanac/national-institute-aging-nia>
9. Mustafa GN, Sabir JM. Perception and experience regarding menopause among menopausal women attending teaching hospitals in Erbil City. Glob J Health Sci [Internet]. 2012 May [cited 2012 May];4(3):170-78. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4776920/>doi: 10.5539/gjhs.v4n3p170
10. Elkazeh EAAE, El-Zeftawy AMA. Knowledge of women in reproductive age about menopausal problems and preventive health behaviours in Tanta City. IOSR-JNHS [Internet]. 2015 May [Cited 2015 May];4(3):51-63. Available from <https://pdfs.semanticscholar.org/99d0/8bf9ef4785d549c231ead682b371c35cdf1a.pdf> DOI: 10.9790/1959-04325163
11. Batul S, Kausar R, Naqvi G, Javed A, Tufail H. menopausal attitude and symptoms in peri and post-menopausal working women. Pakistan Journal of Psychological Research [Internet]. 2017 [Cited 2017 Jun 23];32(1):55-75. Available from <http://www.pjprnip.edu.pk/pjpr/index.php/pjpr/article/viewFile/386/404>
12. Nusrat N, Nishat Z, Gulfareen H, Aftab M, Asia N. knowledge attitude and experience of menopause. J Ayub Med Coll Abbottabad [Internet]. 2008 Jan;20(1):56-9. Available from <https://www.ncbi.nlm.nih.gov/pubmed/19024187>
13. Kozinoga M, Majchrzycki M, Piotrowska S. Low back pain in women before and after menopause. PrzMenopauzalny [Internet]. 2015 Sep;14(3):203-7. Available from <https://www.ncbi.nlm.nih.gov/pubmed/26528111> doi: 10.5114/pm.2015.54347
14. Paudel IS, Bhattarai S, Adhikari P, Gautam R, Singh SB. Gynaecological and other health problems of postmenopausal women and their health seeking behaviour in rural Terai, Nepal. Health Renaissance [Internet]. 2014 [Cited 2015];12(2):87-91. Available from <https://nepjol.info/nepal/index.php/HREN/article/view/14106> DOI: <http://dx.doi.org/10.3126/hren.v12i2.14106>

-
15. Weber MT, Mapstone M, Staskiewicz J, Maki PM. Reconciling subjective memory complaints with objective memory performance in the menopausal transition. The Journal of The North American Menopause Society [Internet]. 2012 Jul;19(7):735-41. Available from https://journals.lww.com/menopausejournal/Abstract/2012/07000/Reconciling_subjective_memory_complaints_with.6.aspxdoi: 10.1097/gme.0b013e318241fd22

Awareness Regarding Prevention of Cervical Cancer among Women of Reproductive Age Group of a Budhanilkantha Municipality

Sanju Bhattarai,¹ Gayetri Darshandhari (Kapali)¹

¹ Maharajgunj Nursing Campus

ABSTRACT

Background: Cervical cancer is the great public health burden in Nepal. The morbidity and mortality of women during the most productive years of their lives has a devastating effect not only on the wellbeing of the family but also on the overall economy of the country as well. The study was conducted to find the awareness regarding the prevention of cervical cancer among women of reproductive age group in a community.

Methods: A cross-sectional descriptive study was carried out in Budhanilkantha Municipality ward no 11. A total of 102 women of reproductive age group married for at least 3 years were selected by non probability purposive sampling technique and Semi-structured interview schedule was used to collect the data. Data were analyzed using descriptive and inferential statistics.

Results: The age of the respondents varied from 20 to 49 years and mean age was 35.1 years. More than half (59.8%) of the respondents were homemaker. Most (87.3%) of them were literate. Almost all (93.1%) of the respondents had heard about cervical cancer and 86.3% of them knew that cervical cancer is preventable. More than half (59.8%) had heard about pap smear test. However, only 10.5% knew that cervical cancer can be prevented by vaccination. Only 3.2% of the respondents had adequate awareness regarding prevention of cervical cancer. The study also found statistically significant association between level of awareness and parity ($p=0.005$) of women.

Conclusion: It is concluded that the awareness on prevention of cervical cancer among reproductive age group is dismally low. It alarms the need of a well-designed health education program on cervical cancer prevention among women.

Keywords: Cervical cancer; Human papilloma virus; Pap smear test.

BACKGROUND

Cervical cancer is the cancer of the uterine cervix that arises due to abnormal growth of cells in the cervix. It is the fourth most common cause of cancer among women worldwide and also the fourth most common cause of death from cancer in women. It accounts for about 8% of total cases and total deaths from cancer worldwide, with estimated 5,28,000 cases and 2, 66,000 deaths across the globe.¹

Approximately 85% of cervical cancers occur in the developing countries. South Asian countries like India, Nepal and Srilanka jointly contribute to nearly one third of the global cervical cancer burden.²

Cervical cancer is the biggest killer and most preventable cancer in Nepalese women. It ranks first among cancer related deaths in all age group. According to National cancer registry programme of BP Koirala Memorial Cancer hospital, cervical cancer accounts for 21.4% of all cancer in Nepalese women and is most frequent among age group 35-64

years.³ Annually 3,504 new cases of cervical cancer are recorded resulting in 1,100.⁴ Early detection and treatment significantly reduces the morbidity and mortality due to cervical cancer. However, in Nepal 80.9% cases of cervical cancer have late diagnosis. High level of illiteracy, ignorance among women and their poor health seeking behavior for gynecological symptoms due to cultural barrier are responsible for late diagnosis of cervical cancer in Nepal.⁵

One descriptive study conducted in Sunsari revealed that nearly two third (63.1%) of reproductive aged married women had adequate knowledge on cervical cancer prevention however their knowledge on screening test was very low (8.7%).⁶ At the end of 2015, Government of Nepal, Family health division has started a programme on screening of cervical cancer through visual inspection with acetic acid.

Utilization of the cervical cancer services is significantly influenced by knowledge and attitude of women regarding cervical cancer and its preventive

Correspondence: Gayetri Darshandhari (Kapali), Nursing Campus Maharajgunj, Email: gayetrins_9@yahoo.com

measures.⁷ Thus prevention interventions should be focusing on raising awareness regarding cervical cancer prevention and screening.

METHODS

It was cross sectional descriptive study design used to assess the awareness regarding prevention of cervical cancer among women of reproductive age group in a community. After proposal approval from the Research Committee of TU, IOM, Maharajgunj Nursing Campus, This study was conducted in a community setting in ward number 11 of budhanilkantha municipality of Kathmandu district lying in bagmatizone . The population of this study were the women of reproductive age group (20-50 years) living in the study area. Samples were selected using non- probability purposive sampling technique. According to a study done in western Nepal, the prevalent awareness of women regarding prevention of cervical cancer is 60% .⁸ The total sample was 102. All women of age 20 to 50 years married for at least 3 years, who are not diagnosed with cervical cancer and willing to participate in the study were included in the study. Semi-structured interview schedule was prepared based on the objectives and variables of the study. Interview schedule was first developed in English and translate into Nepali. Pretesting of the instrument was done among 10% of sample size i.e. 10 women in ward number 12 of budhanilkantha municipality. Necessary modifications on the instrument was made based on the response of the participants in pretesting. Formal permission was taken from authority of concerned ward prior to data collection. Data was collected through interview method using semi-structured interview schedule in the respondents home setting. From the family with more than one eligible women, only one respondent was selected using lottery method. Purpose of the study was explained and consent of the respondents was achieved prior to the interview. Data were analyzed using descriptive statistics like frequency, percentage, mean, standard deviation and inferential statistics such as chi-square test was used to study the association between the level of awareness and selected socio-demographic factors (age, education, occupation, income, duration of marriage and parity) .

RESULTS

Table 1. Socio-demographic Characteristics of the Respondents

Variables	Frequency	Percent	Variables	Frequency	Percent
Age (Years)			Income		
20-25	16	15.7	Adequate for 6 months	6	5.9
26-30	20	19.6	Adequate for 6-12 months	62	60.8
31-35	21	20.6	Adequate for 12 month		
36-40	15	14.7			
41-45	13	12.7			
46-50	17	16.7	Occupation		
Mean age $\pm$SD=35.1 $\pm$8.5			Homemaker	60	58.8
			Business	37	36.3
Educational status (n=102)			Service	3	2.9
Illiterate	13	12.7	Agriculture	2	2
Literate	89	87.3			
Level of education (n=89)					
Primary level	4	4.5			
Lower secondary level	8	9			
Secondary level	36	40.4			
Higher secondary level	18	20.2			
University level	5	5.6			

Socio-demographic findings revealed that out of 102 respondents, age of the women varied from 20 to 50 years, one fourth of women (20.6%) belonged to the age group 30-35 years whereas age group 40-45 had the least number of women (12.7%). The study population largely consisted of literate (87.3%) and 40.4% of them had received secondary education. The major occupation of the women was homemaker (58.8%) whereas, only 2.0%

were engaged in agriculture. More than half (60.8%) of the women had adequate income for 6-12 months.

Table 2. Respondent's Awareness on Risk Factors and Prevention of Cervical Cancer (n=102).

Variables	Frequency	Percent
Risk factors *(n=95)		
Sexually transmitted infections	29	30.5
Multiple pregnancies	24	25.3
Poor genital hygiene	23	24.2
Early onset of sexual activity	22	23.2
Multiple sex partners	21	22.1
Prolonged use of oral contraceptives	12	12.6
Weak immune system	11	11.6
Cigarette smoking	10	10.5
Poor dietary intake	3	3.2
Cervical cancer is preventable (n=95)		
Yes	82	86.3
No	3	3.2
Don't Know	10	10.5
Preventive measures of cervical cancer (n=82) *		
Prompt treatment of sexually transmitted infections	28	29.5
Avoiding multiple sexual partners	25	26.3
Avoiding early sexual partners exposures	21	22.1
Avoiding multiple pregnancies	23	24.2
Maintaining meticulous perineal hygiene	18	18.9
Using safer sex practice	13	13.7
Avoiding cigarette smoking	13	13.7
Avoiding prolonged use of oral contraceptives	5	5.3

This table shows the awareness of the women in relation to the risk factors and prevention of cervical cancer. Nearly one third (30.5%) of the women reported that sexually transmitted infections could be a risk factor for cervical cancer followed by multiple pregnancies (25.3%). On the contrary, only 3.2% of the women stated that poor dietary intake could be a risk factor for causing cervical cancer. Regarding preventive measures maximum (86.3%) women stated that cervical cancer could be prevented. Nearly one third (29.5%) of the women mentioned that prompt treatment of sexually transmitted infections could prevent from cervical cancer. Only 5.3% were aware that avoiding prolonged use of oral contraceptives could prevent against cervical cancer.

Table 3. Women's Awareness Regarding Screening of Cervical Cancer

Variables	Frequency	Percent
Screening can detect cervical cancer (n=95)		
Yes	87	91.6
No	2	2.1
Don't Know	6	6.3
Heard of pap smear (n=95)		
Yes	61	59.8
No	34	33.3
Purpose of pap smear (n=61)		
Screening of cervical cancer	34	55.7
Treatment of cervical cancer	4	6.6
Don't know	23	37.7
High risk group for Pap (n=61)		
only sick women	3	3.2
All women who are sexually active	51	53.7
Don't know	7	11.5
Time Interval for pap smear(n=61)		
Weekly	2	3.3
Every 3-6 months	20	32.8
Yearly	14	23
Every 3 years	1	1.6
As frequently as possible	4	6.6
Don't know	20	32.8

Almost all (91.6%) of the women believed that screening could detect cervical cancer. More than half (59.8%) of the women had heard of pap smear but only half of them (55.7%) correctly stated the purpose of cervical cancer. Of all the women who had heard of pap smear, half of them (53.7%) knew that pap test should be taken by all women who are sexually active and only 1.6% correctly stated that pap smear should be done at least every 3 yearly.

Table 4. Respondents Level of Awareness Regarding Prevention of Cervical Cancer (n=95).

Level of Awareness	Frequency	Percent
Inadequate awareness (<50%)	84	88.4
Moderate awareness (50% to 75%)	8	8.4
Adequate awareness (>75%)	3	3.2

Most of the women (88.4%) had inadequate awareness on prevention of cervical cancer. Very few women (8.4%) of the women had moderate knowledge and only 3.2% had adequate knowledge on prevention of cervical cancer.

Table 5 .Association between Women's Level of Awareness and Duration of Marriage and Parity n=95

Variables	Level of awareness		Total	p value
	Inadequate	Adequate		
Duration of marriage (Years)				
0-20	64	6	70	
21-35	20	5	25	2.35
Parity				
< 2	68	9	77	
> 2		2	18	0.005*

*statistical significant association at ≤ 0.005

There was no significant association of the level of awareness with the duration of marriage but there was strong association of level of awareness with parity ($p=0.005$).

DISCUSSION

Almost all (93.1%) of respondent had heard about cervical cancer. More than half (54.7%) of these women stated friends as their source of knowledge. In 2015 a survey had found that 91.6% women had heard about cervical cancer and nearly half (44.7%) had heard from neighbor.⁶ A study conducted in western Nepal also revealed that 86% of women knew about cervical cancer.⁸

Regarding risk factors of cervical cancer, 30.5% of respondents reported that sexually transmitted infections could be risk factor for having cervical cancer followed by multiple pregnancies (25.3%) and poor genital hygiene (24.2%). This finding is higher compared to a study conducted among Gabonese women, where only 8.8% reported that HPV is the principal risk factor of cervical cancer.⁹ This might be as government of Nepal is committed and determined and have formulated awareness and health education program of cervical cancer screening to sensitize the women.

In regard to prevention of cervical cancer most (86.3%) of the respondents stated that cervical cancer is preventable. In the line of this finding, a descriptive cross sectional study in Sunsari revealed that more than three quarters of respondents stated that cervical cancer can be prevented.⁶ However, this finding is contradicted by a study of Nigeria, where only 45.6% respondents reported that cervical cancer can be prevented.¹⁰

Regarding the preventive measures for cervical cancer, about one fourth of the respondents identified preventive measures such as prompt treatment of sexually transmitted infections (29.5%), avoiding multiple sexual partners (26.3%) and avoiding multiple

pregnancies (24.2%). This study support as important risk factor for cervical cancer is the infection with HPV. Other risk factors include smoking, Chlamydia infection, multiple sexual partners, multiparity, early age of first pregnancy.¹⁴

Out of total 95 respondents who had heard about cervical cancer, almost all (91.6%) stated that the cervical cancer could be detected by screening and 59.8% had heard about pap smear test. This finding is contrast to that of which revealed that among 105 Nepalese women attending a tertiary level hospital, 42.9% had knowledge about screening for cervical cancer whereas, only 18.1% knew about pap smear test.¹¹

Among the 61 respondents who had heard about pap smear, more than half (55.7%) correctly stated the purpose of pap smear. This finding is supported by a cross sectional study where 49% respondent knew that pap smear is used for screening of cervical cancer. In contrast to this, a cross sectional study undertaken at a rural community of South Africa where 49% respondents knew that pap smear is used for screening of cervical cancer.¹⁵

This study also found that awareness regarding vaccination against cervical cancer is dismally low. Only 10.5% of the respondents knew that vaccination can prevent against cervical cancer and 1.1% respondents correctly stated that vaccine against cervical cancer should be given to adolescent who are not sexually active. In line of this finding, a study conducted in Punducherry, India revealed that only 2.8% of the respondents were aware of vaccination as prevention for cervical cancer.¹² However, this finding contradicts with the finding of study conducted where more than two thirds of respondents stated that vaccination against HPV will prevent cervical cancer.⁶

Regarding the level of awareness on prevention of cervical cancer, most (88.4%) of the respondents had inadequate awareness on prevention of cervical cancer. In contrast to this, a study in Sunsari, Nepal showed that 63.1% of respondents were adequately knowledgeable on prevention of cervical cancer.⁶

Regarding the association of the level of awareness with parity, statistically significant association was seen ($p=0.005$). This finding is supported by the findings of a study in Qatar which also showed that knowledge of cervical cancer was significantly associated with parity.¹³

CONCLUSION

The findings revealed that the level of awareness regarding prevention of cervical cancer among the women of reproductive age group in the study

population is very low. Women are more aware that the cervical cancer is preventable and can be detected by screening test. However their awareness is low on the purpose of pap smear test and the vaccination against cervical cancer. This suggests that there is a need to increase awareness on prevention of cervical cancer in this group.

REFERENCES

1. WHO.Cancer fact sheet, WHO, 2015. Retrieved, from WHO Media Centre: [www. who/int/mediacentre/factsheets/fs297/en](http://www.who.int/mediacentre/factsheets/fs297/en).
2. Shrestha S, Saha S, Tritpathi N. Knowledge, attitude and practice regarding cervical cancer screening amongst women visiting tertiary centre in kathmandu, Nepal. *Nepal Journal of Medical Sciences*.2013; 2(2): 85-90 DOI: <http://dx.doi.org/10.3126/njms.v2i2.8941>
3. National guideline for cervical cancer screening and prevention in Nepal, 2010. Ministry of Health and Population, Department of Health Services Government of Nepal.
4. Joshi M, Mishra SR. Cervical cancer screening in Nepal .*Health Prospect. Journal of Public Health* .2013;12(1): 18-20. DOI: <http://dx.doi.org/10.3126/hprospect.v12i1.8723>
5. Gyawali D, Pariyar J. Factors associated with late diagnosis of cervical cancer in Nepal. *Asia Pacific Journal of Cancer Prevention*. 2013; 5(14): 4373-77. DOI 10.7314/APJCP.2013.14.7.4373
6. Sigdel Shah Badhu. Knowledge on prevention and screening of cervical cancer among reproductive aged married women in Sunsari. *Nursing Journal of BPKIHS*2015;1(1) 7-10
7. Ranabhat S, Tiwari M, Dhungana PG, ShresthaR . Association of Knowledge, Attitude and Demographic Variables with Cervical Pap Smear Practice in Nepal. *Researchgate*.2014 Nov;DOI: 10.7314/APJCP.2014.15.20.8905
8. Sapkota, K., &Sapkota, K. (2011).Knowledge attitude and perceived barriers to cervical cancer screening among rural women in western Nepal. *American Public Health Association*
9. Assoumou SZ, Mabika BM, Mbiguino AN, Mouallif M, Khatlabi A. Awareness and Knowledge regarding of cervical cancer, pap smear screening and human papilloma infection in Gabonese women. *Bio Medical Central Women's Health*. 2015 April;15(37): DOI: 10.1186/s12905-015-0193-2. 9
10. Hyacinth IH, Oluwatoyosi A A, Joy, NI, Tolulope O. (2012). Cervical cancer and pap smear awareness and utilization of pap smear test among federal civil servants in north central Nigeria. *PLOS ONE*. 2012; 7(10): <https://doi.org/10.1371/journal.pone.0046583>
11. Shrestha S, Saha S, Tritpathi N. Knowledge, attitude and practice regarding cervical cancer screening amongst women visiting tertiary centre in kathmandu, Nepal. *Nepal Journal of Medical Sciences* 2013; 2(2): 85-90 DOI: <http://dx.doi.org/10.3126/njms.v2i2.8941>
12. Siddharthan J, Rajkumar B, Deivasigamani K. Knowledge, awareness on prevention of cervical cancer among women attending a tertiary care hospital in Pondicherry, India. *Journal of Clinical and Diagnostic Research*. 2014 June; 8(6):doi: 10.7860/JCDR/2014/8115.4422
13. Al-Meer FM, Aseel MT, Al-Khalaf J, Al-Kuwari MG, Ismail MF.Knowledge, attitude and practices regarding cervical cancer and screening among women visiting primary health care in Qatar.*EastMediterr Health Journal*. 2011 Nov;17(11):855-61.
14. American cancer society. Risk factors of cervical cancer.American cancer society.2015.
15. Hoque M, HoqueE,Kader S B. Evaluation of cervical cancer screening program at a rural community of South Africa . *East African Journal of Pubic Health*. 2008; 5(2): 111-16.

Knowledge on Early Screening of Breast Cancer among Nurses in Biratnagar

Saraswati Basnet,¹Hamanti Owasti²

¹Nursing Campus Biratnagar

ABSTRACT

Background: Breast cancer is the second most common cancer in Nepal. The aim of the study was to assess the knowledge regarding early screening of breast cancer among nurses.

Methods: The study is descriptive in nature, where non-probability purposive sampling was used to select 101 sample. Self-administered, Semi-structured questionnaire were used to collect required information. Data was analyzed by using descriptive as well as inferential statistics.

Results: This study results, revealed the highest proportion (42.6%) of nurses were from age group 30-40 years (mean age in year &SD: 33±8). Nearly two third (65.3%) of nurses had good level of knowledge on breast cancer screening. This study also found that education and working experience are not significantly associated with the level of knowledge of the respondents. Likewise, 7.9% of them had family history of breast cancer. Knowledge of Mammography was good (69.3%) in comparison to Clinical Breast Examination.

Conclusion: It is concluded that the more than half of nurses had good knowledge. In conclusion, still one third of the nurses have poor knowledge on early screening of breast cancer.

Keywords: Early Screening Method; Knowledge; Breast Cancer.

BACKGROUND

World Health Organization (WHO) reports that the burden of cancer is growing and cancer is one of the leading causes of death worldwide. From, a total of 58 million deaths in 2005, cancer accounted for 13% of all deaths. More than 70% of all cancer death in 2005 occurred in low and middle income countries where resources available for prevention, diagnosis and treatment of cancer are limited or non-existence. Based on projections, cancer deaths will continue to rise with an estimated 1.4 million dying in 2030.¹

Worldwide, breast cancer is now the most common cancer diagnosed in women and is the leading cause of deaths from cancer among women, with approximately 1.3 million new cases and an estimated 458,000 deaths reported in 2008. A woman born in the United States today has a 1 in 8 chance of having invasive breast cancer during her life time.²

Breast cancer is one of the most common cancers in women. It is estimated that 232,340 new cases of invasive breast cancer were expected to be diagnosed among US women in 2013, and approximately 39,620 US women were expected to die from breast cancer.³ Breast cancer (BC) is one of the most common cancers in women across the world accounting for 23% of all

cancer cases.⁴

Breasts or mammary glands are the soul of motherhood and core of the evolution of mammals, such that can be aptly expressed in the dictum: No mammary glands, no mammals. However, breasts are very susceptible to develop cancer. Breast cancer is the most common after non melanoma skin malignancy in women and has the highest fatality rate of all cancers affecting women.⁵

In India around 145,000 new cases of BC (27% of all cancer cases in both genders) are diagnosed every year with around 70,000 deaths due to BC every year, both of which are higher than any cancer among both genders^[6]. Breast cancer is the second leading in women of Nepal. They reach to the specialist doctor very late because of awareness and low knowledge of breast cancer. The incidence of breast cancer in Nepal has risen significantly over the last two decade^[7].

METHODS

Descriptive survey study design was used. The study was conducted at Koshi Zonal Hospital, Biratnagar. Total 101 nurses working in all wards and OPD were included by adopting census method. Nurses from different age group, of all level including metron, in

Correspondence: Saraswati Basnet, ¹ Nursing Campus Biratnagar, Email: basnetsaru64@yahoo.com

charges, with different working experience who were available and showed their willing to participate in were included in the study were included. Self-administered, semi-structured questionnaire was used to collect consisting of two parts: Part I consisting of socio-demographic information and Part II of knowledge on early screening of breast cancer. Pre-testing was done among 11 respondents in similar setting in Golden Hospital and some modification was done as necessary. Ethical approval was taken from authorized committee i.e. research board of T.U. Nursing Campus Biratnagar prior to data collection. Purpose of the study was explained to each respondent. The information gathered from the questionnaire was used for the research purpose only. Confidentiality and anonymity was maintained throughout the study. Respondents were assured for the confidentiality of the information by explaining them that their information will not be disclose to other person and only be used for research purpose. Written informed consent was obtained from the respondents prior to data collection. Validity was maintained with the consultation of extensive literature review, consultation of oncologist too. Data was collected by researcher herself. Proposal was submitted to the research committee of the Nursing Campus Biratnagar. Collected data was analysed by using descriptive and inferential statistics. Descriptive statistics such as frequency and percentage distribution was used to analyse demographic data and mean, percentage and standard deviation was used for the knowledge of breast cancer. Inferential statistics chi-square test was used to find the association between dependent and independent variables.

RESULTS

Socio Demographic Characteristics of the Respondents

Less than half respondents (42.6%) belong to the age group 30-40 years. The mean age & Standard Deviation was 33 ± 8 years. Regarding job experience, majority (76.2%) of the respondents had more than 5 years work experience. Less than half of the respondents (31.7%) knew the interval of CBE for the age 20-39 which is every 3 year, whereas others had wrong response. Similarly, 40.6% of the respondents knew answer on the interval of CBE after 40 years which is every year.

Table 1. Knowledge on Sign &Symptoms, Screening Method and Diagnostic Procedure of Breast Cancer (n=101).

Variables	Frequency	Percent
Sign Symptoms*		
lump or mass in the breast & Changes in breast appearance	81	80.1
lump in the breast	10	9.8
mass of the breast	5	4.9
Changes in breast appearance	5	4.9
Early Screening Methods		
Mammography & CBE	48	47.5
CBE	36	35.6
Mammography	11	10.9
Breast X-ray	4	4.0
Purpose		
Screening and diagnosis	63	62.4
Screening	16	15.8
Diagnostic	16	15.8
Treatment	6	5.9

*multiple response

Table depicts that most of the (80.1%) of the respondents were aware about sign & symptoms of breast cancer which is lump in the breast & changes in the breast appearance whereas only few (5%) of the respondents replied that the changes in breast appearance. It shows that 47.5% of the respondents had knowledge about early screening methods of breast cancer which is mammography & CBE whereas only 4% replied breast x-ray.

Concerning purpose of mammography, 62.4% had knowledge about it whereas only 5.9% respondents had treatment of breast cancer.

Table 2. Knowledge on Interval of Mammography & Clinical Breast Examination (n=101)

Variables	Frequency	Percent
Early Screening Methods		
Mammography & Clinical Breast Examination(CBE)	48	47.5
CBE only	36	35.6
Correct meaning of CBE		
Mammography	11	10.9
Breast X-ray	4	4.0
Purpose of screening methods		
Screening and diagnosis	63	62.4
Screening only	16	15.8
Diagnostic only	16	15.8
Early Treatment	6	5.9

Table 1 depicts that one third (59.4%) of the respondents knew that the CBE is a physical exam of the breasts and the underarm area whereas only 38.6% respondents replied that in CBE health care provider carefully examine the breasts and surrounding area for any irregularities.

TABLE 2. Level of Knowledge on Early Screening of Breast Cancer(n=101)

Knowledge	Frequency	Percent
Good Knowledge (>50%)	66	65.3
Poor knowledge (<50%)	35	34.7

Table 2 depicts that 65.3% of the respondents had good knowledge whereas 34.7% of the respondents had poor knowledge on early screening of breast cancer.

Table 3: Association between Age & Work Experience with Knowledge on Early Screening of Breast Cancer(n=101).

Variables	Knowledge		P value
	Good	Poor	
	n (%)	n (%)	
Working Experience			
less than 5 years	12 (11.8)	12 (11.8)	0.088
More than 5 years	54 (70.1%)	23 (29.9%)	

Above table depicts that working experience was not significantly associated with the level of knowledge.

DISCUSSION

This section deals with the comparison between the findings from literature review and findings from this research. It mainly focuses on what are similarities and dissimilarities and what may be possible causes of those similarities and dissimilarities of literature review & from this research.

Among 101 respondents, highest proportion (42.6%) of the respondents belongs to the age group 30-40 years & the least (5%) were from the age group of 50-60 years. Their mean age & Standard deviation was 33±8 years. Similarly, 33.7 % of the respondents were Staff Nurses, 33.7% of the respondents were ANM followed by BN/B.S.c.(28.7%) & the least (4%) were MN/MSc. Concerning work experience, 76.2% of the respondents had work experience of more than 5 years & 23.8% of the respondents had work experience less than 5 years. Minority (8.9%) of the respondents had attained training related to breast cancer, least (14.9%) had exposure to breast cancer patient & 7.9% had family history of breast cancer which contradicts to the study conducted on cancer epidemiology in South Asia-Past, Present and Future found family history of breast cancer was 28 percent^[10]. This difference may be due to this study is not epidemiological study.

Concerning early screening methods of breast cancer, 47.5% of the respondents had knowledge about early screening methods whereas others had incorrect response. Similarly, 61.4% of the respondents were aware about the suitable diagnostic procedure which is mammography whereas others had chosen other diagnostic procedures for early screening of breast cancer which supports the study findings; 88.3% awareness on the various diagnostic techniques done on Breast Cancer Risk-Factor and Screening Awareness Among Women Nurses and Teachers in Amman, Jordan^[9].

Regarding mammography highest proportion (71.3%) of the respondents replied that the mammography is the suitable method for screening of breast cancer & which is not painful & 61.4% of the respondents replied that mammography is specialized x-ray imaging, followed by non-invasive procedure (37.65%) whereas others had incorrect answer. Concerning purpose of mammography, 62.4% had knowledge about it; they replied the purpose is for diagnosis & screening of breast cancer. Likewise, majority (69.3%) of the respondents had knowledge about the mammography interval after the age of 40 years which contradicts to the study conducted on Knowledge, Attitudes & Practice of Breast cancer screening among Female Health Workers in Nigerian Urban City where Nigerian female health workers have awareness of mammography as a diagnostic

method was very high (80.7%), but an extremely low knowledge of mammography as a screening method was found ^[24].

Concerning sign & symptoms of breast cancer 80.2% of the respondents were aware which is similar with a study which found 82% awareness on sign & symptoms²⁶. The result supports to the study by Breast Service, Department of Surgery Changi General Hospital, Singapore between January & April 2004 which revealed that the staff nurses have fair knowledge (73%) of sign & symptoms of breast cancer symptoms. And also supports to the study conducted on Awareness of Breast Cancer Warning Signs and Screening Methods among Female Residents of Pokhara Valley, Nepal; 100% of nurses were aware about mammography and warning signs of breast cancer ^[25].

Regarding Clinical Breast Examination (CBE) 59.4% of the respondents replied that the CBE is a physical exam of the breasts and the underarm area, 52.5% replied CBE should be performed by a health care provider well trained in the technique. Concerning purpose of CBE majority (80.2%) of the respondents replied to find a lump or change in the breast that may mean a serious problem. Similarly, 31.7% of the respondents had correct answer on the interval of CBE for the age 20-39 years & 40.6% of the respondents had correct answer on the interval of CBE after 40 years. The findings contradict that the study published on European Journal of Cancer Care, summarizes; the majority of participants were unaware of clinical breast examination (68%) ^[29]. It also contradicts the study conducted on Breast Cancer Awareness and Screening Practices among Nurses in Dhulikhel Hospital revealed that among 142 nurses, clinical breast examination practice was found low, only 14.8% of nurses performed CBE ^[7]. Similar findings were showed in a study conducted in Turkey which revealed that 88.8% of the respondents never had CBE. This difference is may be due to the CBE is revised concept rather than Self Breast Examination (SBE) for early screening of breast cancer.

CONCLUSION

Based on the findings it is conducted that two third of the nurses have good knowledge about early screening of breast cancer. However, still one third have poor knowledge on it. Hence, there is a need to organize in-service education programme for this group to enhance their knowledge.

REFERENCES

- Petersen PE. Oral cancer prevention and control. WHO, 20 Avenue Appia, CH1211 Geneva-27, Switzerland [Internet]. (2008). Available from www.who.int/oral/PEP%20WHO%20ORAL%20CANCER%20PREVENTION.pdf.
- Warner E. Clinical practice. Breast-cancer screening. N Eng J Med [Internet]. (2011 Sep15); 365(11): 1025-32. Available from <https://www.ncbi.nlm.nih.gov/pubmed/21916640>.
- Cancer society. Cancer Facts & Figures. From <https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2013.html> [Internet] 2011.
- Mohammad A, Makaju R. Restrospective Histopathological Analysis of various neoplasm's of the Female Reproductive system (FRS) seen at the Kathmandu University Teaching Hospital (KUTH). Kathmandu University medical Journal, [Internet] (2006):4.48-53.
- Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global Cancer Statistics. CA Cancer J Clin [Internet]. (2011 Mar-Apr); 61(2): 134. Available from https://www.ncbi.nlm.nih.gov/pubmed?linkname=pubmed_pubmed&from_uid
- Foucher E, Lortet-Tieulent J, Rosso S, Loebergh JWW, Comber H. Cancer Incidence and Mortality Patterns in Europe: Estimates for 40 countries in 2012: European Journal of Cancer [Internet]. (2013); 49(4):1374-1403. from <http://www.who.int/cancer/modules/en/index.html> on 2073/1/25
- Shrestha S, Shrestha S. Breast Cancer Awareness and Screening Practices among Nurses. J of the Nepal Nurscoun [Internet]. (2014 Dec); 8(5):1-4. available from [https://www.google.com/h?q=7.%09Shrestha+S,+Shrestha+S.+Breast+Cancer+Awareness+and+Screning+Practices+among+Nurses.+](https://www.google.com/h?q=7.%09Shrestha+S,+Shrestha+S.+Breast+Cancer+Awareness+and+Screning+Practices+among+Nurses.)
- International Agency for Research on Cancer. Glob cans 2008. Lyon, IARC press, 2010.
- Israa M, Ikhasawneh. Knowledge & practice of breastcancerscreening among Jordanian nurses [Internet]. (2002). Available forms: <http://www.google.com/search?client=firefox-a&rls=org.mozilla:en-Faheem> M. Risk factors for breast cancer in patients treated at NORI Hospital, Islamabad, Jpak Med Assoc [Internet]. (2007 May); 57(5): 242-5. Available from <https://www.ncbi.nlm.nih.gov/pubmed/17571480>.
- Ohene Y M, Akpaloo A K. Breast cancer Awareness among Nurses in Kumasi Ghana: Knowledge, Attitudes and Practice. Postgraduate Med J of Ghana

- [Internet]. (2013 Mar); 2(1):5-12. Available from <http://www.cancer.org> on 2073/1/23.
11. Parajuli P, Mandal G N. Knowledge about Breast cancer and Breast Self Examination Practices among Medical Dental and B.Sc Nursing Students of BPKIHS[Internet].(2008Sep-Dec); 8(3):166-168. Available from <https://www.nepjol.info/index.php/HREN/article/download/4209/3579>.
 12. Park K, Park J. E. A Text book of Preventive & Social Medicine (5th Ed.). Janalpur: India, (1976); 494p.
 13. Rai B A. Textbook of Oncology Nursing. Heritage Publishers & Distributers Pvt. Ltd. Bhotahity Kathmandu Nepal. (2016); 47-48p.
 14. Ibrahim AN, Odusanya O O. Knowledge of risk factors, beliefs and practices of female healthcare professionals towards breast cancer in a tertiary institution in Lagos, Nigeria.BMC Cancer[Internet]. (2009 Mar); 9(76). Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2656542>
 15. Sathian B. Awareness of Breast Cancer Warning Signs and Screening Methods among the Females of Pokhara, Nepal. Asian Pacific J of Can Prevent [Internet]. (2014);15 (11): 4723-4726. Available from <http://dx.doi.org/10.7314/APJCP.2014.15.11.4723>.
 16. ShahT, Agrawal C S, Agrawal A. Validating breast self examination as screening modalities for breast cancer in eastern region of Nepal: A population based study. Kath Univ Med J[Internet].(2008); 6(1) 21: 89-93. Available formfrom <http://www.google.com.np/url?On 2073/2/8>.
 17. Sharma A, Bhandari R, Gilbert D, Sharma A K. Benign and Malignant breast disease presenting to Bhaktapur. Kath Univ Med J[Internet] (2005); 3(4) 12: 384-387. Available from <https://h?q=18.%09Sharma+A,+Bhandari+R,+Gilbert+D,+Sharma+A+K.+Benign+and+Malignant+breast+disease+>
 18. Sherstha M M, Pradhananga K K. Hospital based cancer registry& prevalence of cancer in Nepal. Journal of the Nepal Medical Association [Internet]. (1997); 36(123):289-295. Available from www.jnma.com.np/jnma/index.php/jnma/article/view/3113.
 19. Sreedharan J, Muttapallymyali J, Venkatramana J, Venkatramana M, Thomas M. Breast self examination: Knowledge and practice among Nurses in United Arab Emirates. Asian Pacific J of Can Preven [Internet]. (2010); 11(3): 651-654. Available from [HTTPS://WWW.SCIRP.ORG/JOURNAL/PAPERINFORMATION.ASPX?PAPERID=71639](https://www.scirp.org/journal/PaperInformation.aspx?PaperID=71639).
 20. Yaren A, Ozkilinc G, Guler A, OztopI. Awareness of breast and Cervical Cancer risk Factors and Screening Behaviors among nurses in rural region of Turkey. Euro J of Can Care [Internet]. (2008), 17(3): 278-284. Available from<https://www.ncbi.nlm.nih.gov/pubmed/18419631>.
 21. Hassan A, Allam A, AI kindi S, Abu Zeinah G, Eziada S, & Bashir A. Knowledge, Attitudes and Practices of Oncology Nurses towards Complementary and Alternative Medicine for Cancer Care in Qatar [Internet]. (2014);(2014); doi:10.4172/2155-6148.1000477. Available from <https://www.omicsonline.org/.../knowledge-attitudes-and-practices-of-oncology-nurse>.
 22. AlamA A. Knowledge of breast cancer and its risk and protective factors among women in Riyad. Annals of Saudi Medicine, August [Internet].(2006); 26(4):272-7.Available from<https://www.ncbi.nlm.nih.gov/pubmed/16883082>.
 24. khigbe A O, Omuemue O V. Knowledge, attitude and practice of breast cancer screening among female health workers in a Nigerian urban city. BMC Cancer[Internet]. (2009); 7(10): 9-20. From <http://bmccancer.biomedcentral.com/articles/10.1186/1471-2407-9-203> doi10.1186/1471-2407-9-20
 25. Nagaraja B S, Sharath BN, Bannered I, Menezes RG. Awareness ofBreast Cancer Warning Signs and Screening Methods among Female Residents of Pokhara Valley, Nepal.Asian Pac J of Can Prev [Internet]. (2014); 15(11): 4723-6. Available from <https://www.Ncbi.nlm.nih.gov/pubmed/24969910>.
 23. Acharya SC, JhaAk, Manandhar T Clinical Profile of Patients presenting with breast cancer in Nepal. KUMJ[Internet].(2014); 10(39):3-7. Available from <https://www.ncbi.nlm.nih.gov/pubmed/23434953>
 24. Ahmed F, Mahmud S, Hatcher J, & Khan S M. Breat cancer risk factor knowledge among nurses in teaching hospitals of Karachi, Pakistan: A Cross sectional study. BMC Nursing. 5(6). An Official JouofEAACI[Internet]. (2006); 5:6.doi:10.1186/1472-6955-56. Available from <https://bmcnurs.biomedcentral.com/articles/10.1186/1472-6955-5-6>.
 25. khigbe A O, Omuemue, O.V. Knowledge, attitude and practice of breast cancer screening among female health workers in a Nigerian urban city. BMC Cancer[Internet]. (2009); Available from <http://bmccancer.biomedcentral.com/articles/10.1186/1471-2407-9-203> doi10.1186/1471-2407-9-20 on 2073/2/8.

A Qualitative Study of Women's Experience and Perceptions of Using Skilled Birth Attendants in Rural Nepal

Yuba Raj Baral: London Metropolitan University, UK

Yuba Raj Baral¹ Jo Skinner¹, Edwin van Teijlingen²,

¹Faculty of Social Sciences and Humanities, London Metropolitan University, 166-220 Holloway Road, London N7 8DB, UK.

²Centre for Midwifery, Maternal & Perinatal Health, Bournemouth University, UK.

ABSTRACT

Background: Access of health services such as transportation, cost of the services, women's autonomy, community influences, socio-cultural and gender roles in decision-making are discussed repeatedly. However, women's own perceptions and experiences are poorly explored during service use and health services development. This study aimed to explore women's experiences and perceptions in the use of SBA during the pregnancy and childbirth in rural Nepal.

Methods: Semi-structured interviews were conducted. The data were analysed using the thematic analysis. The fieldwork was conducted in a village of western Nepal. Interviews were conducted with 24 married women aged 18-49 who had given birth within the three years at the time of study.

Results: Health service providers' attitude and behaviour towards women during service use appeared one of the important factors in skilled birth attendants' use. Positive behaviour from health service providers encouraged women to service use while negative behaviour discouraged. Lack of privacy and confidentiality discouraged women to use skilled delivery care. Women expected friendly and respective care but findings show that women were not happy of the services they received during skilled care used.

Conclusion: This study contributes to understanding why women do or do not use Skilled Birth Attendants. Women who had attended hospital in order to receive care by skilled birth attendants generally described this as a negative experience, due to poor quality of services and rude behaviour of female service providers. Many of the participants said that they would prefer to have their babies at home, if they had access to skilled care in their local area.

Keywords: Skilled birth attendants; women's experience; developing countries; Nepal.

BACKGROUND

Nearly three hundred thousand maternal deaths worldwide every year: more than 99% of these occur in the developing world and most could be prevented if available of skilled care during pregnancy, labour, delivery and after childbirth were available¹. Increasing the proportion of birth attended by a skilled person is one of the important indicators to reduce the maternal mortality as declared by Millennium Development Goal 5 (MDG). The maternal mortality ratio (MMR) in Nepal is 170 per 100,000 live births is a significant reduction although it is still one of the higher among the developing countries.³⁻⁴ Nepal is a poor country where more than 25% of people live in poverty.⁵ Unequal access to various groups of the population to

basic human rights, such as education, employment, health facilities, shelter and communication is the key issues in the social sectors. There is an unequal services distribution, low quality of services that are supplied indicate that the government's failure to ensure equal access to basic human rights.⁶ In general, women in Nepal from the high mountains and remote hills and economically disadvantaged groups face greater accessibility problems.⁷ Experienced from developed countries suggest that skilled care in pregnancy and childbirth can have a significant impact on reducing maternal deaths. In late 19th century in many countries of Europe and the United States (US) maternal mortality was as high as or higher than in today's developing world. Several factors have contributed

Correspondence author: Yuba Raj Baral, Ph.D, MSc, baral_yubaraj@hotmail.co.uk

to reduced maternal mortality in those countries, such as improvements in knowledge, better access and quality of services, equal distribution of services and infrastructure developments.⁸

In the last decade, the reduction of maternal mortality in Nepal has been attributed a number of factors including: a decline in the total fertility rate, increased age on marriage, use of family planning methods, legalisation of the abortion, and expansion of the immunisation and awareness.⁹ This study explores the issues why women do or do not want to uptake SBA during childbirth.

METHODS

To explore the women's experiences and perceptions this qualitative study comprised semi-structured interviews, with; **(a) women who had recently had given a birth and used a SBA and; (b) some recent mother who had not used a SBAs at the time of childbirth. A female researcher with midwifery background interviewed the women.**

Study site

Data were collected in a rural area west of the capital Kathmandu. A Village Development Committee (VDC) in a western hills district of Nepal comprised the study area. The VDC is the smallest unit of local government for administrative purposes. The VDC is further divided into smaller units called wards consisting of nine wards. The study village was not that far from the district headquarters but poor road and transportation services made problems access to skilled care at the time of childbirth.

Participants

In total, 24 married mothers were interviewed, 16 were SBA users and eight were non-SBA users aged 18-49 years who had given birth within the three years prior to the time of interviews. Due to the cultural and traditional practices it is very rare to encounter an unmarried woman with children in Nepal. In rural Nepal, early marriage is the common and more than 75% of women give birth before age of 25. The reason for choosing a three-year period was to capture women's recollections of obstetric events and subjective elements related to their labour and delivery while their reminiscences were still fresh and relevant to the local situation in maternity care.¹⁰

Data collection procedures

Data were collected over a four month period in 2011. In-depth interviews were conducted using semi-structured interview guideline in Nepali by first author and female interviewer (both native Nepali speakers). All interviews were electronic

recorded. Each interview lasted on an average of 30 to 45 minutes.¹¹ Three days training was provided to a female interviewer by the first author. In a traditional rural society, it was very difficult to interview women by strange man on a topic like reproductive health as it is associated with sexual activities. Considering the culture sensitivity the female interviewer was recruited to interview women. Before the actual interviews took place, pilot interviews were conducted.¹²

Ethical Approval

Ethical approval was obtained from Nepal Health Research Council (Ref no: 853/2011). Since some of the women could not read and write verbal consent was also taken. Women were told that the information they provided would be kept secure and interviews were conducted in a place as women preferred.

Data Analysis

First author listen to the recorded interviews several times in order to familiarise himself with expressions and words used by the participants. They were first transcribed verbatim in the Nepali language and then translated into English.¹³ Transcribed words were translated to English as closely as possible for real meaning. Three transcripts were 'back translated' into Nepali by a person who had knowledge of both English and Nepali language for quality purposes.¹⁴ Thematic analysis was carried out to analyse the data.¹⁵ A series of discussion was also held with co-authors to verify categories and themes.

FINDINGS

To explore women experience and perceptions, altogether 24 married women who had delivered baby within last three years at the time of interview were included. To understand women's experience and perceptions following themes are identified: women's individual characteristics; choices and access to services; women position in the households and living arrangements; direct and indirect cost of services; privacy and confidentiality; gender role in decision-making; culture and traditional beliefs; gender and attitude of service providers; women expectations before SBA use and delivery preferences for childbirth were developed and discussed.

Women's Experiences and Perceptions of Using Skilled Birth Attendants

- Women's individual characteristics, for example: age, education, employment and living arrangements are discussed repeatedly but how they impact decision making on SBA uptake is poorly addressed during service use and policy development.
- Quality of services and hospital environment play a part on SBA uptake.
- Lack of Privacy and confidentiality in the hospital are important barriers for SBA uptake.
- Cultural practices and gender roles are vital to decision-making in SBA uptake.
- Positive behaviour from SBAs encourages women on SBA uptake while negative behaviour discouraged.

Women's characteristics

Women expressed varieties of experiences and preferences for utilisation of skilled birth care. One first time and young woman stated:

"I was too young to give birth at the age of 18. Due to my age, there was chance of high risk during childbirth" (SBA user woman 1).

A woman who had some independent income stated that:

"I had a paid job during pregnancy. I didn't depend on anyone for money to go to the hospital for pregnancy checkups" (SBA user woman 4).

Choice of services

Women stated that they had no choices of health services at the local level. One woman expressed;

"There were no alternative maternal health services for childbirth in the village. If women had any problem they have to go to the city" (SBA user woman 1). Rural women living in remote villages were faced numerous problems in accessing appropriate maternity care. A woman shared her experience as: "The road and transportation services were the main problems in going to the hospital. Travelled in poor road made it more difficult and painful to reach to hospital" (SBA user woman 11).

Living arrangements and women's position in the family:

Some women reported that a woman's position in the household was influenced in decision-making for SBA use. A woman who considers herself as a household head reported:

"I was living with my daughters. I am the person in the family making decisions because I was

already living separately" (SBA user woman 10).

Cost of services: Both direct and indirect costs of services have significant constraints on SBA uptake. Women commonly reflected these views during the interviews. One woman said:

"The cost of hospital birth was high. At least 2-3 people need to go to hospital to care for the newborn and mother." (Non-SBA user woman 6).

Another woman mentioned her experiences that cost as a barrier of skilled care use as:

"It is expensive and difficult to manage SBA service use for poor people like us. My husband did not work for a week due to the birth in the hospital" (SBA user woman 3).

Privacy and confidentiality issues at hospital:

It was shameful to show body parts to others and embarrassing if male SBAs were there to help. There were no curtains in hospital rooms and no way of maintaining privacy after the baby was born. A woman described:

"I felt embarrassment and did not ask any questions about my pregnancy situation. There were no curtains and no private room so this made it difficult to change my clothes and breastfeed the baby after baby was born" (SBA user woman 6).

Gender role in decision making: Women reported that male family members had more influence in decision-making. An SBA non-user woman reported on the role of gender in decision-making in maternity service use: *"Men are the main breadwinners in most households in our society. Men's voices are always up than women's" (SBA user women 1).*

Culture and tradition: Some women reported that social norms and beliefs such as childbirth is a normal process not requiring any help from skilled persons

discouraged women from seeking care at appropriate time. A woman reported as: *“ My mother-in-law made me vomit by putting hair in my mouth and asked for Panifukarakhane (drink of healing water and mantra by traditional healer) for placenta out but it did not work”* (Non-SBA user woman 8).

Attitude of service providers: Women mentioned that the positive behaviours of the SBAs during labour and delivery encouraged but in reverse of that the negative behaviour discourages women in SBA uptake. One of the SBA user women shared her experience:

“ I saw a woman in hospital crying due to labour pain, a nurse came and shouted at her saying stop crying; you are not the only woman in this labour room but there are other women too” (SBA user woman 6).

Women expectations: Women felt uncomfortable and embarrassed about childbirth with the help of a male doctor and declined to partly because male doctors were helping the childbirth. One of the women explained:

“I was in a panic during the antenatal checkups. It was difficult to discuss problems with a man in a closed room. I feel embarrassed when a male doctor asked me to pull up my blouse ” (Non-SBA user woman 2).

Women had a positive expectation about quality of SBA services before use. However, they found things different in reality. One of the SBA user women reported:

“I had thought that the health personnel would behave nicely and politely but I found the reverse of what I hoped” (SBA user woman 9).

Delivery preferences: Some women reported that the idea of using the SBA was not very important unless there were complications in pregnancy. However, women preferred to deliver at home with help of SBAs if available. A woman stated:

“It would prefer deliver at home with the help of trained health people if available. It would be better to have a skilled person but it was not possible in this village” (Non-SBA user woman 7).

DISCUSSION

This study is explored women's experiences and perceptions why they do or do not want to uptake SBA during childbirth in the context of rural Nepal. The data indicates that gender and other divisions are still strong in Nepali society despite some societal change over

the past few years. Women usually held lower status not only than men but also than older women. In the family hierarchy young women are near the bottom in terms of decision-making due to their age, gender and lack of economic autonomy.¹⁶ Educated women are more likely to make decisions for themselves on SBA uptake. This is related to the role of education in giving women confidence and knowledge in their approaches to problems, as well as making it more likely that such women have some economic autonomy. However, in some case even better educated women may not feel able to challenge the age and gender norms in decision-making associated with the wider societal culture.¹⁷ This reflects women's overall status in society as well as cultural beliefs about childbirth. Pregnancy is widely considered as a taboo subject based on gender norms that pregnancy is a 'women's matter'.¹⁸ In many South Asian countries, including Nepal, there is lack of open discussion related to pregnancy due to its association with sexual activities and sometimes the view continues that women should not be seen to be pregnant.

Some women were shy and reluctant to express their needs during pregnancy. The shyness relating pregnancy reflects the culture of silence surrounding sexual matters. Some rural women did not want to discuss their pregnancy, assuming that it is a private matter, which in turn leads to problems accessing pregnancy care in an appropriate time.

Social inequalities based on gender, caste, economic status and place of residence, affecting women's lives in many ways, including health service utilisation. Continuing gender discrimination can be seen in the difference in the literacy rates between males (71%) and females (46%) aged over 15 years with significant implications for women's life chances and choices.¹⁹ It is likely that these differences are higher in low caste ethnic, rural living and deprived groups.

Culture and tradition has strong link to service use. For example, after marriage it is customary for a woman to move in with her husband's family and traditionally, most rural families in Nepal still live in extended family arrangement.²⁰ As a daughter-in-law a young married woman has to perform her duties under the supervision of senior member of the family specially, mother-in-law. In such situations the senior member of the family is the final decision-maker.

Women participated in this study expressed a preference for SBA use, the main reason given for going to hospital was 'for safety reasons'. However, some suggested that they would not make this choice again if they had a 'normal pregnancy' and/or if SBA care were available locally. Similarly, other women 'chose' to use traditional birth attendants as it was

cheaper and comfortable with known people. The lack of SBA services compelled some rural women to deliver their babies at home without the help of skilled birth attendants.²¹ However, some women from both SBA users and non users in this study identified some actual or potential benefits of a home birth. These included a more relaxed and known environment with support during labour from their mother-in-law or other female family members, as well as privacy at the time of childbirth.

There may also be financial and economic constraints on the family regarding decisions about SBA use, which for rural women in this study meant going to hospital for childbirth. Pregnancy and childbirth are regarded as a women's issue but men have a lot of power over women's lives in Nepali culture. Socially and culturally there is a big gender gap between men and women from childhood on. Based on gender norms men not only have more life chances and opportunities than women (in terms of health, education and employment as well as other social activities), but they also generally control the use of financial resources within the family have significant impacts on service use.²²

Women in this study have reported that poverty is a major factor limiting SBA uptake. In addition, living in a rural community compounds other inequalities such as, education, awareness level and service distribution affecting SBA uptake. Nepal is one of the poorest and least developed countries in the world: 81% of its population is rural and more than 25% of its population survive on less than one dollar per day. Agriculture is the main livelihood of the population and 38% of Nepal's GDP comes from the agricultural sector. However, 46% of its population are unemployed or working only in subsistence agriculture which has direct impact on SBA uptake.¹⁹

It is clear that rural women face inequalities in health service provision due to difficulties in accessing urban based health facilities. This is partly related to the mountainous terrain and high costs of developing the roads and transport infrastructure. The Government of Nepal had previously established a policy to increase the number of maternity care centres in rural areas.²³ But there is no evidence from this study that this has yet addressed the challenges which rural women face in accessing maternity related health care.

Women had concerns about the quality of maternity services provided in the public hospital, partly related to the SBAs themselves. Positive interpersonal aspects of maternity care are crucial to ensure that women take up SBA services.²⁴ For pregnant women the relationship with the care providers and the maternity care system influences service use.²⁵ The 'concept

of safe motherhood' concerns not only the physical safety of women but is also related to deep cultural and personal feelings. 'Motherhood' is specific to women and related to a gendered notion: thus safe motherhood must be expanded beyond the prevention of morbidity or mortality to encompass respect for women's basic human rights, as well as respect for women's autonomy, dignity, feelings, choices, and preferences including for companionship during pregnancy and childbirth.²⁶ However, evidences from this study suggested that these issues are poorly addressed while developing maternal health policies in Nepal.

There is also a gender dimension in the characteristics of the female SBAs since, few doctors are female. Women in this study reported that disrespectful care in the hospital, such as physical abuse, clinical care without the woman's consent, lack of confidential care, and undignified care were common.²⁶ Some women experienced rude behaviour from SBAs especially from nurses. Positive attitude by SBAs (providing respectful care and encouragement through polite behaviour) could promote women's use of SBAs in future, while negative attitudes (neglect, shouting and use of rude language) are discouraged.¹⁵ Some women in rural Nepal still believed that childbirth is a natural process, not needing any biomedical intervention unless there are complications. However, studies from many developed countries suggested that use of SBAs significantly reduces maternal morbidity and mortality.²⁷⁻²⁹

The decision to use health services might be seen as an individual choice but cultural norms and values, gender inequality in decision-making, the views of the household head and women's low autonomy in financial matters all play a part. In Nepali traditional society men play an important part in decision-making about SBA uptake.³⁰

Use of SBAs in future is related partly to how well women's expectations had been met in the past and whether their previous experience of service use was satisfactory with a good pregnancy outcome.³¹ However, it is indicated that many SBA users had negative experiences in the hospital, including in their treatment by some SBAs including refusal to assist during labour and childbirth. Lack of empathy and moral support from SBAs: such experience tended to discouraged women from going to hospital for subsequent births. Furthermore, if rural women do not have a choice of services locally or cannot afford the costs of going to hospital. So they may compel to deliver their babies at home with the help of traditional birth attendants.

Conclusion

This study has tried to capture the essence of women's experiences and perceptions with regards to maternal health service utilisation in Nepal and thus contribute to an understanding of why women do or do not use SBAs. Factors that predictably influence SBA use include cultural factors affecting women's lack of autonomy in resource control and decision-making process. Issues of access of health services and to the economic circumstances of individual families are also vital in service uptake. The difficult terrain of the country; widespread poverty and illiteracy; limited resources for the improvement of existing services are also important barriers. Traditional, cultural attitudes and gender related factors pose challenges when considering how policies could be changed and services developed to meet the needs of rural women.

However, the qualitative data about women's actual experiences of hospital based maternity care and their preferences with regard to future service use have yielded new knowledge and two findings in particular have implications for improvement of existing services and development of new ones. Participants who had attended hospital in order to receive care by SBAs generally described this as a negative experience, due to the rude behaviour of female SBAs and the poor physical standards of the facility, with direct implications for the training and management of staff. In addition, women reported that they would prefer to have their babies at home, if they had access to SBA care in their own local area.

Conflict of interest: The authors have declared that no competing interests exist.

Acknowledgements: The authors are indebted to all the mothers who provided valuable information for this study and to the female interviewer for her support to connect to the local community.

Author contributions: Wrote the paper: YRB. Responsible for the study conception and design: YRB, JS, EvT. Performed data collection by YRB. Worked for qualitative data analysis: YRB, JS, EvT. Made critical revision to the paper: YRB, JS, EvT. Supervised study by: JS; EvT.

REFERENCES

1. Hogan MC., Foreman KJ. Naghavi, M. Ahn, SY. Wang, M. Makela, SM. Lopez, AD. Lozanna, R. & Christopher, MJL. Maternal mortality for 181 countries, 1980-2008: A systematic analysis of progress towards Millennium Development Goal 5. The Lancet, 2010, 375, 9726:1609-1623.
2. WHO. Achieving Millennium Development Goal 5: Target 5A and 5B on reducing maternal mortality and achieving universal access to reproductive health. Briefing note on achieving Millennium Development Goal (MDG) 5. Department of Reproductive Health and Research, WHO, Geneva, 2009.
3. WHO, UNICEF, UNFPA. & WB. Trends in maternal mortality: 1990 to 2010. WHO, Geneva, 2012.
4. Nepal Demographic and Health Survey 2011. Nepal Ministry of Health and Population, New ERA, and ICF International, Calverton, Maryland, 2011.
5. UNDP. Human Development Report, 2009. Human Development Indicators Nepal, 2009. Available in <http://hdrstats.undp.org/en/countries/profiles/npl.html>. Access on 18th October, 2012.
6. Bennett L. Gender, caste and ethnic exclusion in Nepal: The policy process from analysis to action. Arusha Conference "New Frontiers of Social Policy" -, 2005, December 12-15.
7. Bennett, L., Dahal, DR. & Govindasamy, P. Caste, ethnic and regional identity in Nepal: Further analysis of the 2006 Nepal Demographic and Health Survey. Calverton, Maryland, USA: Macro International Inc, 2008.
8. Loudon, I. Maternal mortality in the past and its relevance to developing countries today. American J of ClinNutri, 2008, 72, 1: 241-246.
9. Pant PD., Suvedi, BK. Pradhan, A. Hulton, L. Matthews, Z. & Maskey, M. Investigating recent improvements in maternal health in Nepal: Further analysis of the 2006 Nepal Demographic and Health Survey. Calverton, Maryland, USA: Macro International Inc, 2008.
10. D'Ambruoso, L., Abbey, M. & Hussein, J. Please understand when I cry out in pain: Women's accounts of maternity services during labour and delivery in Ghana. Public Health, 2005, 5:140.
11. Harris FM., van Teijlingen, ER. Hundley, V. Farmer, J. Bryers, H. Caldwell, J. Ireland, J. Kiger, A. & Tucker, J. The buck stops here: Midwives and maternity care in rural Scotland. Midwifery, 2011, 27, 3: 301-307.
12. Belgrave LL Zablotsky, D. & Guadagno, MA. How do we talk to each other? Writing qualitative research for quantitative readers. Qual Health Res, 2002, 12, 10: 1427-1439.
13. Van Teijlingen, ER., & Hundley, V. Pilot studies in family planning and reproductive health care. J of Fam Plan Rep Health Care, 2005, 31, 3: 219-221.

14. Twinn, S. An exploratory study examining the influence of translation on the validity and reliability of qualitative data in nursing research. *J AdvNur*, 1997, 26, 2: 418-423.
15. Small, R., Yelland, J. & Lumley, J. Cross-cultural research: Trying to do it better. 2. Enhancing data quality. *Aus& New Zealand J of Pub Health*, 1999, 23, 4:390-395.
16. Thomas, J., & Harden, A. Methods for the thematic synthesis of qualitative research in systematic reviews. National Centre for Research Methods Working Paper Series Number (10/07), London, 2007.
17. Matsumura, M., &Gubhaju, B. Women's status, household structure and the utilisation of maternal health services in Nepal. *Asia Paci Pop J*, 2001, 16, 1: 23-44.
18. Acharya, M. Gender equality and empowerment of women in Nepal. UNFPA, Kathmandu, Nepal, 2007.
19. Pradhan, A., Subedi, BK. Barnett, S. Sharma, SK. Puri, M. Poudel, P. &ChitrakarRai, S. KC, NP. &Hulton, L. Nepal maternal morbidity and mortality study 2008/2009. Family Health Division, Department of Health Services, Ministry of Health and Population, Kathmandu, Nepal, Programming for Safe Motherhood. Mother Care Arlington, VA: John Snow Inc, 2010.
20. Central Intelligence Agency. The world facts book. Nepal economy overview, 2013. Available in http://www.indexmundi.com/nepal/economy_overview.html, accessed on 3rd August, 2014.
21. Mullany, CB., Becker, S. &Hindin, MJ. The impact of including husbands in antenatal health education services on maternal health practices in urban Nepal: Results from a randomized controlled trial. *Health Edu Res*, 2007, 22, 2:166-176.
22. Anwar, I., Sami, M. Akhtar, N. Chowdhury, ME. Salma, U. Rahman, M. &Koblinsky, M. Inequity in maternal health-care services: Evidence from home-based skilled-birth-attendant programmes in Bangladesh. *Bulletin of the World Health Organisation*, 2008, 86, 4:253-259.
23. Central Bureau of Statistics. Preliminary results of national population census 2011. Central Bureau of Statistics, Ram Shah Path, Kathmandu, Nepal, 2011.
24. MoHP. In-service training strategy for skilled birth attendants 2006-2012. National Health Training Centre, Ministry of Health and Population, Kathmandu, Nepal, 2007.
25. MoHP& NHSSP. Human resources for health strategic plan 2011-2015. Strengthening health system and improving-services, Draft. MoHP, Kathmandu, Nepal, 2012.
26. Baral, YR; Skinner, J. Teijlingen, E. & Lyons, K. The uptake of skilled birth attendants' services in rural Nepal: A qualitative study. *J Asian Midw*, 2016, 3 (2), 7-25.
27. Team, V., Vasey, K. &Manderson, L. Cultural dimensions of pregnancy, birth and post-natal care. Social Science and Health Research Unit, School of Psychology, Psychiatry and Psychological Medicine, Faculty of Medicine, Nursing and Health Sciences, Monash University, Australia, 2010.
28. Bradley, PJ.,& Bray, KH. The Netherlands' maternal-child health programme: implications for the United States. *J Obs, Gyn& Neo Nur*, 1996, 25, 6: 471-475.
29. Jordan, B. The hut and the hospital: Information, power, and symbolism in the artefacts of birth: Issues in *Peri Care &Edu*, 1987, 14, 1: 36-40.
30. Davis-Floyd, R., &Sargant, C. (eds.). Introduction: The anthropology of birth. *Childbirth and authoritative knowledge: Cross-cultural perspectives*. Berkeley: University of California Press, 1997, p1-54.
31. Mayhew, M., Hansen, PM. Peter, HD. Edward, A. Singh, LP. Dwivedi, V. Mashkooor, A. & Burnham, G. Determinants of skilled birth attendants' utilisation in Afghanistan: A cross sectional study. *Amer J of Pub Health*, 2008, 98, 10:1849-1856.

Knowledge and Practice of Postnatal Mothers regarding Prevention of Neonatal Hypothermia in a Tertiary Level Hospital, Kathmandu

Chitra Kumari Tiwari,¹Dr.Archana Pandey Bista²

¹Government of Nepal ,²Maharajgunj Nursing Campus

ABSTRACT

Background: Neonatal hypothermia is one of the major causes of neonatal morbidity in the developing countries. Mothers are the main care givers of their newborns in all settings. Thus this study aims to find out the knowledge and practice of postnatal mothers regarding prevention of neonatal hypothermia in a hospital setting.

Methods: A descriptive cross-sectional design was carried out. Total 160 postnatal mothers admitted in two maternity wards of a tertiary level hospital were included in the study through purposive sampling technique. The study was conducted within the period from 19th July to 14th August, 2016. Data was collected by interview method by using pre - tested semi-structured interview schedule in Nepali version. Data was analyzed by using descriptive statistics followed by Pearson Chi-square test.

Results: Findings revealed that few (21.6%)mothersknewskin to skin contact prevent hypothermia, likewise 26.9%knew that low birth weight of newborn as a risk groups and 31.9% responded that drying & clothing after bath can prevent hypothermia. Moreover, non of the mothers were using WHO recommended sunflower oil for messaging their newborns. There was a statistical significant association between increased level of knowledge on prevention of neonatal hypothermia and age of the mother ($p=0.016$, $OR=2.355$, 95%), education level of mother ($p= 0.033$, $OR= 2.031$, 95%), education level of spouse ($p=0.002$, $OR= 2.798$, 95%). Similarly, there was a statistical significant association between recommended practice of prevention of neonatal hypothermia and education level of spouse ($p= 0.019$, $OR= 2.189$, 95%).

Conclusion: Very few mothers have adequate level of knowledge on the prevention of neonatal hypothermia and other contributing conditions such as low birth and preterm newborns as a risk group, skin to skin contact including its benefits, delay breast feeding as a cause of neonatal hypothermia and use of sunflower oil for massaging the newborns. Educated mothers had better practice on the prevention of hypothermia than the illiterate mothers. hence, educational programme on prevention of neonatal hypothermia need to be encouraged among illiterate mothers specifically on need of skin to skin contact and use of sunflower oil for massaging the newborns.

Keywords: Hypothermia; knowledge; neonate ; postnatal mother; practice.

BACKGROUND

In human life the period from birth up to 28 days of age is known as neonatal period. Thermoregulation in neonate is one of the biological adjustments taken places at birth which is a transitional period of neonate where they need external support to regulate their body temperature as they have poor heat regulating mechanisms at birth.^{1,2} Hypothermia is a major cause of neonatal morbidity and mortality in developing countries. World Health Organization recognizes newborn thermal care as a critical and essential component of newborn care; however hypothermia continuous to remain under documented, under

recognized and under managed.^{3,4} The mortality rate of hypothermic neonates is 3.64 times higher than of the norm thermal neonate. A recent global review in the year 2015 by different international organization has showed a prevalence of hypothermia between 32% to 85% among hospital deliveries and 11% to 92% among home deliveries in developing countries. In Asian countries, some cultural practices hinder the health and survival of the newborn like bathing the baby immediately after birth, delaying breast feeding and keeping baby naked until placenta delivery.⁵⁻⁶ The newborn is most sensitive to hypothermia during the stabilization period in first 6 to 12 hours after birth. The first day after delivery is the period of highest risk

Correspondence author: Archana Pandey Bista, Maharajgunj Nursing Campus, Email: archupbo6@gmail.com or archanabista67@yahoo.com

for baby to develop hypothermia.⁷ Recent study in southern Nepal has shown that neonatal hypothermia 92% of babies was hypothermic during first 28 days of life.⁸

Addressing neonatal hypothermia may help to reduce neonatal morbidity and mortality. In Nepal, the ministry of health and population (MOHP) had followed the WHO newborn care guideline and local intervention for thermal care practices.⁹ Few studies revealed that warm chain is a set of interlinked procedure to be performed at birth and during the next few hours and days after birth in order to minimize heat loss in all newborns which include such steps like warm delivery room, immediate drying, skin to skin contact, breast feeding, postpone weighing and bathing, appropriate clothing, mother and newborn together, warm transportation, warm resuscitation.¹⁰⁻¹² Research need is identified to explore the mother's knowledge and practice regarding prevention of neonatal hypothermia.

METHODS

A descriptive cross-sectional study design was adopted. The study was carried out on one of the tertiary level hospital Teaching hospital, Kathmandu. Total 160 multiparous postnatal mother admitted in two wards of the hospital having normal live neonate were included by using purposive sampling technique. Pretested semi-structured interview schedule was used for data collection. Prior to data collection ethical clearance was obtained from institutional review board of Tribhuvan University, Institute of Medicine. Before data collection formal approval was obtained from the administration of the teaching hospital. Initially, purpose of the study was explained and written informed consent was obtained from each respondent. Data was collected through the face to face interview technique by using semi-structured interview schedule in Nepali version. Privacy was ensured during collecting data from each respondent by using screen as far as possible and after doctors and visitors round. Similarly, the principle of human dignity was maintained by respecting the respondent choice of voluntary participation. They were informed of being free to withdraw from the interview at any time during interview process if they felt uncomfortable. Data collection procedure with the respondents took around 25 to 30 minutes. The study was conducted within the period from 19th July to 14th August, 2016. The data was analyzed by using descriptive as well inferential statistics. Pearson chi-square test was used to measure the association between variables. The strength of association between variables was measured by using Odds ratio at 95% confidence intervals.

RESULTS

Table 1. Socio-demographic Information of the Respondents (n=160).

Characteristics	Frequency	Percent
Age in Years		
≤ 30	113	71.0
> 30	47	29.0
Mean ± SD(29.65 ± 2.4)		
Ethnicity		
Bramin/Chettri	92	57.5
Janjati	64	40.0
Dalit	3	1.9
Muslim	1	0.6
Education status		
Literate	155	96.9
Illiterate	5	3.1
Education level		
Can read and write	9	5.6
Primary education	29	18.1
Secondary	23	14.4
Higher secondary	36	22.5
Bachelor	39	24.4
Above bachelor	19	11.9
Education level of the spouse		
Can read& write	4	2.5
Primary level	24	15.0
Secondary level	29	18.1
Higher secondary level	39	24.4
Bachelor level	35	21.9
Above bachelor level	29	18.1

Table shows that 70.6% of respondents were up to 30 years with mean years ± SD (29.65± 2.49). Regarding ethnicity 57.5% of the respondents were from Bramin/chhetri ethnicity. Almost all of the respondents (96.9%) were literate among them 21.9% had completed bachelors degree level and 18.1% had obtained above bachelor level education.

Table 2. Knowledge on Neonatal Hypothermia (n= 160).

Variables	Frequency	Percent
Causes of hypothermia*		
Wet clothes	126	78.8
Inappropriate clothing	121	75.6
Immediate bathing after birth	47	29.4
Delay breast feeding	28	17.5
High risk newborn to develop hypothermia*		
Low birth weight and premature	43	26.9
Low birth weight newborn	40	25.0
Premature baby	14	8.8
Don't know	25	15.6
Sites of heat losses from newborn's body	81	50.6
Danger signs of hypothermia*		
Fever	115	71.9
Problem related to breathing	97	60.6
Poor breast feeding	41	25.6
Lethargic	15	9.4
Preventive Measures		
First breast feeding within 1 hour after birth	138	86.2
First bath after 24 hours	144	90.0
Immediate care after bath (drying & clothing)	51	31.9
Skin to skin contact		
Knew the meaning of skin to skin contact	74	46.3
Benefits of skin to skin contact		
Promote emotional bonding	40	54.1
Promote milk secretion and weight gain of newborns	16	21.6
Benefit of rooming in with mother *		
Keep the newborns warm	135	84.4
Prevent newborns from infection	36	22.5

*multiple responses

This table shows that majority of the respondents (78.8%) knew wet clothes as the cause of hypothermia and very few (17.5%) knew delay breast feeding as the cause of neonatal hypothermia. Likewise few only (26.9%) knew that low birth weight and premature babies were in high risk condition to develop hypothermia. Half percent (50.6%) of the respondents knew that site of heat losses through the head of newborns. Only near to half of the respondents (46.3%) knew about the meaning of skin to skin contact and few of the respondents (21.6%) knew about benefits

of skin to skin contact to promote milk secretion and weight gain among newborns.

Table 3: Practices on Preventive Measures of Neonatal Hypothermia (n = 160).

Practices #	Frequency	Percent
Measures newborns temperature by thermometer	107	66.9
Breast feed within 1 hour of birth	131	81.9
Exclusive breast feeding	133	83.1
First bath of after 24 hours of birth	158	98.7
Rooming in together with mother	140	87.5
Drying & clothing after bath	54	33.8
Covering head with cap	50	31.2
Oil massage daily	22	13.8
Keep skin to skin contact	10	6.3
Drying, clothing and oil massage after bath	106	66.2
Use of Mustard oil for massage	149	93.1
Use of Sunflower oil for massage	0	0

Based on WHO guideline

Table shows that 66.9% of respondents used thermometer to measure the temperature of newborns. Majority of the respondents (81.9%) took initiation of first breast feeding to their baby within one hour of birth. Almost all respondents (98.7%) gave bath to their neonate after 24 hours of birth. Very few only 6.3% followed skin to skin care for their newborns. Likewise few only (33.8%) followed drying and clothing after bathing their newborns, they reported that they practiced oil massaging before clothing. Concerning types of oil used for massaging the newborns 93.1% used mustard oil and none of the respondents use sunflower oil for massaging their newborns.

Table 4. Association between Knowledge on Prevention of Neonatal Hypothermia and Socio-demographic Characteristics (n= 160).

Characteristics	Level of Knowledge			
	Low	High	p-value	OR(95%CL)
	n (%)	n (%)		
Maternal Age				
≤30	62 (54.86)	51(45.3)	0.016*	2.35(1.160-4.781)
>30	16 (34.04)	31(65.95)		
Education level				
Up to high school level	36(59.01)	25(40.98)	0.033*	2.03 (1.055-3.909)
Above high school level	39(41.48)	80(58.51)		
Education level of spouse				
Up to high school level	37(64.91)	20(35.08)	0.002*	2.79 (1.429-5.478)
Above high school level	41(39.80)	62(60.19)		

P-value significant at < 0.05, OR: Odds Ratio, CL: Confidence Level

The table depicted there was a statistical association between knowledge on prevention of neonatal hypothermia with the age of the respondents (p=0.016, OR=2.355) and with education level of the respondents (p=0.033, OR=2.031). Likewise there was a statistical association between knowledge on prevention of neonatal hypothermia and spouse education level with (p=0.002, OR=2.798).

Table 5. Association between Practices on Prevention of Neonatal Hypothermia and Socio-demographic Characteristics (n=160).

Characteristics	Level of Practices		p- value	OR
	Low	High		
	n (%)	n (%)		
Education level of spouse				
Up to high school level	32 (56.1)	25 (43.8)	0.019*	2.189(1.133 - .231)
Above high school level	38 (36.8)	65 (63.1)		

P-value significant at < 0.05, OR: Odds Ratio, CL: Confidence Level

This table depicted the statistical association between respondents practices of prevention of neonatal hypothermia and spouse education level with (p=0.019 OR= 2.189, 95% CL=1.133-4.231) which denotes that respondents whose spouse had obtained higher school level education were 2.189 times more likely to practices measures to prevent the neonatal hypothermia.

DISCUSSION

Knowledge related to Neonatal hypothermia

Regarding breast feeding, most of the respondents (86.2%) knew optimum time for initiation of breast feeding which was within 1 hour of birth. This finding is similar to the study finding conducted in tertiary level hospital (TUTH) among 323 mothers having infant baby revealed that 79.6% of postnatal mother knew optimal time of breast feeding within one hour of birth.¹³ Similar to this the study finding conducted in tertiary level hospital Nepal among 100 postnatal

mothers revealed almost similar finding which found that 70% of postnatal mothers knew about the initiation of breast feeding within one hour of birth.¹⁴

Concerning the bathing, almost all (90%) of the respondents had knowledge that the best time of first bathing of newborn was after 24 hours of birth. This finding is less similar to the finding conducted in Chitwan district among 75 postnatal mothers has revealed that 72% of respondents answered newborn should be bathed after 24 hours of birth. Regarding skin to skin contact, nearly half (46.3%) of respondents had knowledge about skin to skin contact. This finding is less different with the study finding conducted in Peri-urban area in Aligarh India has revealed that 33.5% of mothers had knowledge about skin to skin contact.¹⁶ These differences might be due to differences in setting this study was conducted in a tertiary level hospital.

Practices related to Neonatal hypothermia

Regarding practicing breast feeding, most of them (81.9%) had initiated breast feeding within one hour of child birth. This finding is almost similar the finding

of study was done in tertiary level hospital among 323 mothers had revealed that 75.5% of respondents gave breast feeding within one hour of birth.¹¹ The finding is higher than the finding of NDHS in 2011 where 44.5% had initiated breast feeding within one hour. These differences might be seen due to difference in setting this finding is only hospital based study. Similarly, the finding of this study is quite higher than finding of study was conducted in Chitwan district of Nepal revealed that 52.5% of mother initiate breast feeding within one hour of birth.¹⁸ This inconsistencies might be the reason that previous researcher conduct the study in specific ethnic group of mothers among Tharu ethnicity.

Regarding bathing, almost all (98.75%) the respondents had initiated bathing after 24 hours of birth, which is similar to the finding of study was conducted in Kaski district in Nepal among 245 mothers (which revealed that 86.1% of newborn bathed after 24 hours).¹⁷ This finding is quite higher than finding of NDHS revealed that only 26.1% in 2011. These inconsistencies due to increasing the awareness about newborn care practices as well as increasing maternal education level.

Regarding skin to skin contact, we found that few (6.3%) of respondents had practiced skin to skin contact which is similar to the study finding in southern Nepal which revealed that 4.5% of mothers practiced skin to skin contact.⁸ Regarding rooming in, majority (87.5%) of the respondents had practices of rooming in which is near similar to the finding study was conducted in peri-urban area of India has revealed that 98.9% of mother practiced rooming in⁽¹⁶⁾.

Concerning the oil massage practice, almost all (93.1%) of the respondents used mustered oil for massaging the newborn and this practice is ideally not recommended by WHO. This findings is similar to the study finding conducted in rural southern Nepal revealed that 98.0% of mothers used mustered oil for massage.⁸ Regarding drying and wrapping shows that less than half (31.8%) of respondents had practiced drying and clothing immediately after bath. This finding is inconsistent with the finding of study was conducted in rural southern Nepal has revealed that 95% of mothers wrapped the baby with cloth immediately after bath.

Association between Selected variables with knowledge and practice on prevention neonatal hypothermia.

In this study significant association was observed between knowledge on prevention of neonatal hypothermia and age of respondent and education level of respondent ($p=0.016$, $OR= 2.355$, 95%), ($p= 0.033$, $OR= 2.031$, 95%) respectively. Similarly there was

significant association between spouse education level and knowledge on prevention of neonatal hypothermia ($p= 0.002$, $OR=2.798$, $CL=1.429-5.478$). Respondents spouse whose education level was above high school, 2.798 times more likely to had high knowledge. This finding is similar to the finding of conducted in Kaski district, Nepal.¹⁷

Education of mothers has been reported to positively influence newborn health in Nepal, and elsewhere. The positive influence of mother's education on optimum thermal care was also shown in this study. Here we found significant association between the age and education level of respondent and knowledge on prevention of neonatal hypothermia ($p=0.016$, $OR= 2.355$, 95%), ($p= 0.033$, $OR= 2.031$). Similarly there was significant association between spouse level of education and recommended practices of prevention of neonatal hypothermia ($p= 0.019$, $OR= 2.189$, 95% $CL= 1.133- 4.231$). This finding is similar to the finding done in Thandalam India.⁽¹⁹⁾

CONCLUSIONS

Very few respondents tend to have knowledge on these different aspects of neonatal hypothermia such as low birth and preterm newborns as a risk group, skin to skin contact including its benefits, delay breast feeding as a cause of neonatal hypothermia and use of sunflower oil for massaging the newborns. There was significant association between maternal education and knowledge of prevention of neonatal hypothermia. Similarly there was significant association between spouse education level and practices of prevention of neonatal hypothermia.

Acknowledgements: Sincere acknowledgements goes to Institutional review board, Institute of Medicine and to all who participated on pre test and final study.

Area of conflict: None

REFERENCES

1. Datta P. Pediatric Nursing. Jaypee Brothers Medical Publishers New Delhi ; 2008.
2. World health organization report. Essential newborn care. Report of Teaching Working Group Geneva; 2014. Retrieved from <http://who.int/pmnch/ewec/progressreport.pdf>
3. Save the Children Fund. Newborn Thermal Care Device in Low Resources Setting. 2009. Retrieved from https://www.sav.org/publications/files/TS_newborn_thermal_rpt.pdf
4. Mullany L.C.. Neonatal hypothermia in low-resources settings. *Seminal Perinatal*. 2010;34 (6) : 426–433.

5. UNICEF, WHO, World Bank & UN DESA Population Division.).Estimated developed by the UN inter-agency group for child mortality estimation .2015. Retrieved from <http://data.worldbank.org/indicator/SH.DYN>.
6. United Nations Children's Fund. Trends in Child Mortality Report. Developed by the UN Inter-agency Group for Child Mortality Estimation United Nations: 2015.Retrieved from https://www.unicef.org/publications/files/Child_Mortality_Report_2015_Web_9_Sept_15.pdf <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3001630/> NMRT
7. Sodemann M. Hypothermia of newborns is associated with excess mortality in the first 2 month of life in Guinea- Bissau, West, and Africa. A European J Tropical Medicine & International health. 2008; 13(8): 980 – 986 doi:10.1111/j.1365- 3156.2008.02113.x
8. Karas D.J., Mullany L.C., Katz J., KhatriS.K., LeClerq S.C., Darmstadt G.L., &Tielsch J M. Home care practices for newborn in rural southern Nepal during the first 2 week of life. J Tropical Pediatric.2012; 58 (3): 40-43. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3530276/>
9. Ministry of Health and Population. (MOHP), New ERA & Macro International Inc. (2007).Nepal Demographic and Health Survey 2006. Kathmandu, Nepal: Ministry of Health and Population, New ERA and Macro International Inc. Retrived from <http://dhsprogram.com/pubs/pdf/fr191/fr191.pdf>
10. FarhadiR, Rezai, M. S., &NakhshM. Incidence of neonatal hypothermia at birth in hospital of Islamic Republic of Iran: A Review J Pediatric. 2014;2(2):21–30. Retrieved from (January%20-%202016%20-%202034).pdfhttp://jpr.mazums.ac.ir/browse.php?a_id=75&sid=1&slc_lang=en
11. Darmstadt G.L., Kumar, V., Yadav, R.K.,&Santosh, L. Introduction of community based skin to skin care in rural Uttar Pradesh. J Perinatology, 2006;26, (10) :597-604.doi 10.1038/sj.jp.7211569
12. Mullany L.C., Darmstadt L. G., Khatri S.K., &Tielsch, J.m.Traditional oil massage of newborn in Nepal. J Tropical Pediatrics;2005, 51(2) :82-86 Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1317296/>
13. Adhikari T.M. Knowledge and practice of mother regarding exclusive breast feeding having infant at a Tertiary level Hospital, Kathmandu. Journal of Nepal pediatric Society, 2014; 34(3): 200-206.doi:<http://dx.doi.org/10.3126/jnps.v34i3.12107>
14. ShresthaGautam&Poudel . (2012). Care of newborn. Journal of PerinatalSociety,
15. Sharma S., &Bhandari S. Knowledge and practices of postnatal mothers on newborn care at hospital setting. Journal of Nursing and Health care. 2016; 2(1): 25-0. <https://www.arcjournals.org/pdfs/ajnh/v2-i1/3.pdf>
16. Khan H., &Khalique N .Knowledge and practices of pregnant women to prevent hypothermia in periurban area of Aligarch. Journal of Pharmaceutics and Biomedical Sciences.2013;28(28): 612 – 617. Retrieved from file:///C:/Users/gh/Downloads/Mohd.%20Haroon%20Khan (612-617) %20(4).
17. Acharaya SR., &Pandey A. Place of delivery & newborn care practices in a village of kaskidistrict.J Biomedical Sciences. 2014; 1(2): 6- 12. doi: 0.3126/jbs.v1i2.11863
18. Chaudhry, J., Dhungana, G.P., &Ghimire, H. Factors affecting newborn care practices among Tharu mothers in selected village development committees of Chitwan district. Journal of Chitwan Medical College.2013; 3 (3):42-45.doi: <http://dx.doi.org/10.3126/jcmc.v3i1.8465>
19. Missiriya S. Knowledge And Practices Of Postnatal Mothers Regarding Personal Hygiene And Newborn Care Practices In Thandulam India. International Journal Of PharmacutilesScience.2016 ;40 (1): 89-93.Retrieved From <Http://Globalresearchonline.Net/Journalcontents/V40-1/18.Pdf>

Heat Application during Labor

Bhuwan Kumari Dangol,¹Sujana Mukhiya,¹Lalita Rai¹

¹ Maharajgunj Nursing Campus

ABSTRACT

Labor is very painful for all parturient women and always been a highest concern to pregnant women. Controlling the pain without harm to mother, fetus, and labor progress remains a major focus in maternity care. There is no ideal medication for relieving labor pain. Heat application is one of the effective, low-cost methods to relieve labor pain and potential benefits of improved labor progress. Heat application reduces pain and improves labor progress by diminishing the painful stimuli; inhibit pain awareness, and reducing the woman's negative reaction to the pain.

Heat application is an inexpensive, simple, safe, and effective non-pharmacological pain relief method. Local heat application is an effective method for reducing labor pain in various phases; this method will increase mother's satisfaction and encourage them to select natural delivery.

BACKGROUND

Natural childbirth is a beautiful experience with many safe options and benefits. Comfort is an essential concept in the context of childbirth pain. The degree of pain and each woman's ability to cope with this perception is influenced by numerous factors such as ethnic, cultural beliefs and practices, psychological factors, the quality and frequency of contractions, the size and position of the fetus, and the use of painful obstetric interventions. Controlling the pain without harm to mother, fetus, and progress of labor remains a major concern of maternity care.¹

Heat application is one of the effective, low-cost methods to relieve labor. Yet, there is no ideal medication for relieving pain during delivery.² Severe pain could result in exacerbation of mother's fear and anxiety during delivery and leads to stimulation of sympathetic nervous system, so increased catecholamine production such as epinephrine and nor-epinephrine, and consequently increased pain and prolonged labor which may prevent mother's satisfaction of delivery.³

Fear of pain encourages mothers to demand caesarian section (C/S) which has led to increased C/S rates.⁴ In Tribhuvan University Teaching Hospital Kathmandu, C/S rate reaches 39.20%. Meanwhile, mortality rate of C/S is five times more than normal vaginal delivery.⁵

Labor pain is different from other types of pain as there is no real trauma or tissue damage involved. Although eradication of the pain source is not achievable, other techniques should be utilized. Administration of drugs

might not only cause side effects but also can disturb mother's active cooperation during delivery.⁶ One of non-pharmacological methods of relieving labor pain is administration of heat in various patterns of body.

Physiologic effects of heat application

- ◆ Increased local blood flow
- ◆ Increased local skin and muscle temperature
- ◆ Increased tissue metabolism
- ◆ Decreased muscle spasm
- ◆ Relaxation of tiny muscles in skin (capillaries, hair follicles)
- ◆ Elevated pain threshold

Pathophysiology

Heat may stimulate heat receptors in derma and deeper tissues and different impulses neutralize themselves at the level of spinal cord and lead to closure of the gate and subsequently impede neural impulses to reach the brain.⁷ The effect of heat on pain relief is immediate and will be eliminated in a short time.⁸

Heat dilates blood vessels and increases blood flow, it can influence the transmission of pain impulses and increase collagen extensibility. Increase in local circulation can reduce the level of nociceptive stimulation by reducing local ischemia caused by muscle spasm or tension. It can increase the removal of metabolites and inflammatory mediators that act as nociceptive stimuli which can help to reduce swelling

Correspondence author: Bhuwan Kumari Dangol, Maharajgunj Nursing Campus, Email: bhuwandangol@gmail.com

and relieve pressure on local nociceptive endings. It may also produce the release of endogenous opiates through placebo-type mechanisms.⁹

Moreover, the Midwifery texts also describe the effects of heat and recommending its use as a non-pharmacological physical comfort measure. Heat increases local skin temperature, circulation, and tissue metabolism. It reduces muscle spasm and raises the pain threshold. Heat also reduces the fight or flight response. Local heat to a warm blanket calms the woman, and also may increase her receptivity to a stroking type of massage which she cannot tolerate when her skin is sensitive or sore due to the fight or flight response.^{1, 10}

Heat is typically applied to the woman's back, lower abdomen, groin and/or perineum. Heat sources include a hot water bottle, heated rice-filled sock, warm compress, electric heating pad, warm blanket, and warm bath or shower.¹⁰ Local application of hot compresses (hot, moist washcloths) over the perineum during the second stage is comforting.

Precautions and Contraindication of heat application

A protective layer should be placed between the woman's skin and the source of heat to allow for a gradual increase in heat sensation from pleasant warmth to heat. Do not place a heat pack on a woman if she had already fever. The caregiver should always ask permission before doing anything to the woman.¹⁰

If a woman has an epidural/regional block, applying heat to the anesthetized region is absolutely contraindicated because it could damage her skin. A woman may tolerate more extreme temperatures during labor than usual. So, caregivers should test the temperature of the hot before application. If caregivers can comfortably tolerate the hot on their forearm for several seconds, then it is safe to apply it to the women with intact sensation.¹⁰

The temperature of the hot pack must never exceed the tolerance of the person applying it. The laboring woman may not notice if the pack is too hot, because her pain threshold may be altered to the point at which a burn could occur without her being aware of it. The use of heat is contraindicated if the woman has a fever or prone to hemorrhage, and impaired sensation in that region

Evidence based practice on Effects of heat therapy in labor

In Iran, a randomized control trial study showed that no significant difference in baseline pain severity (at the beginning of active phase of labor) between

the case and the control group (6.84 ± 1.93 and 7.0 ± 2.03 , respectively; $P > 0.05$) but thereafter along with progression of labor and during four stages of pain evaluation, pain severity in the study group was significantly lower than the control group. The difference in pain severity was statistically significant between two groups at the end of the acceleration phase with ($P = 0.002$) and during the maximum of slop, the deceleration phase and the second stage with ($P = 0.000$). Comparison of labor outcomes between two groups demonstrated a significant difference in duration of the first and third phases of delivery as they were shorter in the study group, but maternal outcomes including type of delivery, oxytocic uptake, and condition of perineum, and also childbirth outcomes including heart rate and APGAR were not significantly different.⁷

Analysis of 210 labor department in Britain demonstrated that midwives had used hot packs for reduction of labor pain during the second phase of labor in 33% of the parturient women and cold packs in 21% of them. Labor pain during all stages from 1 to 3rd of labor in women who were put in warm water was less than women who received routine care.¹¹

Necessity of obstetrical anesthetics during delivery in warm water was less than routine delivery and warm water had decreased labor pain in 69% of the cases.¹² Used warm towel on sacral and perineum area had achieved beneficial effects in labor pain relief.¹³ Warm water could shorten the labor stages.^{14,15} Placing mothers in warm water (37°C) for 20 minutes might shorten the first stages of labor in multigravida women.¹⁶

Similarly among 360 women used warm pack on perineum during the late of their second stage of labor and routine treatments in another 357. Mothers and midwives found this method successful in pain relief as 79.7% of mothers and 80.4% of midwives believed warm pack to be efficient in pain relief and had positive impression for application of this method in next labors.¹⁷ Warm pack placed induced mother's comfort during the second stage and cause helpful psychological effects. This study also demonstrated that duration of first and third stages of labor in the intervention group was shorter than the controls.¹⁸

Rasha Mohamed Essa conducted a study of woman according to their labor pain intensity measured by visual analogue scale (VAS) before and after the intervention. It is obvious that pain intensity did statistically significantly decreased among the study group after the intervention ($P = .000$). On the other hand, it was slightly increased among the control group after the intervention ($P = .106$). The difference between the two groups-in this respect-was statistically

significant ($P = .000$). Specifically, almost two-thirds (62.5%) of the study group had severe pain before the intervention and only 10% of them reported such pain response after the intervention.¹⁹ This is compared to one-half (57.5%) and 65% of the control group who suffered severe pain before and after the intervention respectively. Moreover, 17.5% of the study group had experience unbearable pain before the intervention. While none of them had such pain intensity after the intervention. This is compared with 10% and 15% of the control group who had experienced such an unbearable pain before and after the intervention, respectively.

CONCLUSIONS

Nurses and other maternity caregivers can employ a broad range of effective and simple non-pharmacologic techniques to promote the laboring woman's physical comfort, psychological well-being, and labor progress. Decision-makers who wish to decrease rates of medical interventions for women experiencing normal pregnancies should consider developing birthing units with policies and practices to support normal labor and birth.

Heat application is an inexpensive, simple, safe, and effective non-pharmacological pain relief method. Local heat application is an effective method for reducing labor pain in various phases, addition to shortening first and third stages of labor. Further it increase/ promotes women select natural birth. So application of heat during labor should be focused during labor management is an essential task of obstetric.

REFERENCES

1. Simkin P. Reducing pain and enhancing progress in labor: a guide to nonpharmacologic methods for maternity caregivers. *Birth*. 1995 Sep 1;22(3):161-71.
2. Abed MA, Hall LA, Moser DK. Spielberger's State Anxiety Inventory: Development of a shortened version for critically ill patients. *Issues in mental health nursing*. 2011 Mar 2;32(4):220-7.
3. Airaksinen OV, Kyrklund N, Latvala K, Kouri JP, Grönblad M, Kolari P. Efficacy of cold gel for soft tissue injuries: a prospective randomized double-blinded trial. *The American journal of sports medicine*. 2003 Sep;31(5):680-4.
4. Beck CT. Post-traumatic stress disorder due to childbirth: the aftermath. *Nursing research*. 2004 Jul 1;53(4):216-24.
5. Brokelman RB, Haverkamp D, van Loon C, Hol A, van Kampen A, Veth R. The validation of the visual analogue scale for patient satisfaction after total hip arthroplasty. *European orthopaedics and traumatology*. 2012 Jun 1;3(2):101-5.
6. Chang, M., Y. Wang, S., Y. Chen, C., H. (2002). Effects of massage on pain and anxiety during labor: a randomized controlled trial in Taiwan. *J AdvNurs*. 38(1):68-73.
7. Ganji Z, Shirvani MA, Rezaei-Abhari F, Danesh M. The effect of intermittent local heat and cold on labor pain and child birth outcome. *Iranian journal of nursing and midwifery research*. 2013 Jul;18(4):298.
8. Cunningham, G. Leveno, K., J. Bloom, S., L. Hauth, J., C. Rouse, D., J. Spong, C., Y. (2010). Chapter 19. New York: Mc Grow Hill Medical. Williams's obstetrics
9. Ghani, R. M. Effect of Heat and Cold therapy during the First stage of Labor on women Perception of Birth Experience: A Randomized Controlled Trial. *Journal of Biology, Agriculture and Healthcare*. 2004: 4(26).
10. Simkin P, Bolding A. Update on nonpharmacologic approaches to relieve labor pain and prevent suffering. *Journal of midwifery & women's health*. 2004 Nov 12;49(6):489-504.
11. Cluett, ER. Nikodem, VC. Mcand, RE., Burns EE. Immersion in water in pregnancy, labor and birth. *Cochrane Database syst Rev*. 2004:CD000111.
12. Geissbuehler V, Eberhard J, Stein S. Experience of pain and analgesia with water and land births. *J PsychosomObstetGynaecol*. 2005 Jun; 26(2):127-33.
13. Cluett, E., R. Nikodem, V., C., M. Burns, E., E. (2004). Immersion in water in pregnancy, labor and birth. *Cochrane Database syst Rev*. CD000111.
14. Grodzka M, Makowska P, Wielgoś M, Przyboś A, Chrostowska J, Marianowski L. Water birth in the parturients' estimation. *Ginekologiapolska*. 2001 Dec;72(12):1025-30.
15. Malarewicz A, Wydrzynski G, Szymkiewicz J, Adamczyk-Gruszka O. The influence of water immersion on the course of first stage of parturition in primiparous women. *Medycynawiekurozwojowego*. 2005;9(4):773-80.
16. Moneta J, Oknińska A, Wielgoś M, Przyboś A, Chrostowska J, Marianowski L. The influence of water immersion on the course of labor. *Ginekologiapolska*. 2001 Dec;72(12):1031-6.

-
17. Dahlen HG, Homer CS, Cooke M, Upton AM, Nunn RA, Brodrick BS. 'Soothing the ring of fire': Australian women's and midwives' experiences of using perineal warm packs in the second stage of labour. *Midwifery*. 2009 Apr 1;25(2):e39-48.
 18. Sanders J, Peters TJ, Campbell R. Techniques to reduce perineal pain during spontaneous vaginal delivery and perineal suturing: a UK survey of midwifery practice. *Midwifery*. 2005 Jun 1;21(2):154-60.
 19. Essa RM, Ismail NI. Effect of second stage perineal warm compresses on perineal pain and outcome among primiparae. *Journal of Nursing Education and Practice*. 2015 Dec 15;6(4):48.

Respectful Maternity Care (RMC): A Universal Right of Childbearing Women

Panta Ganga¹, Naupane Sharmila¹

¹ Maharajgunj Nursing Campus

ABSTRACT

Respectful maternity care is an integral element of comprehensive quality health services. Many women experience disrespectful and abusive treatment during childbirth in health facilities worldwide. Such a situation not only violates the rights of women to respectful care, but also can threaten their rights to live with good health and fair treatment. Disrespect and abuse are main factors that discourage childbearing women from using maternity care from skilled care providers, leading to high burden of maternal mortality. Therefore, promotion of respectful and dignified care is important to increase the use of child birth facility by the people for the delivery of their children. This can help to promote women-right centered approaches in the delivery of maternal health services.

BACKGROUND

Respectful maternity care is a universal human right for every childbearing woman in every health system around the world. Childbearing women not only experience comfort and being empowered after getting support and help from the caregivers but also increase self-concept and confidence. On the other hand, they may also suffer from health damage and emotional trauma. So, the relationship with caregiver during maternity care is important for the improvement of maternal and newborn's health and wellbeing.¹

Everywhere, pregnancy and childbirth are joyful events in the lives of women and families, and these are also the times of extreme vulnerability. Every day, approximately 830 women die from the preventable causes related to pregnancy and childbirth. Among them, 99% of the deaths occur in developing countries, especially in the rural areas and poor communities of such countries.² The provision of universal access to safe, acceptable, quality sexual and reproductive health care can dramatically reduce global rates of maternal morbidity and mortality. Recently, the rate of delivery of the babies in the facilities has improved because women have become more motivated to utilize the institutional delivery facilities, where the motivation is developed through community mobilization, awareness efforts, financial incentive, and policy measures.² Nevertheless, several evidences have indicated that women facing disrespectful, abusive, and/or neglectful treatment especially during childbirth and postnatal period, may have to suffer from adverse consequences,

and the infants may also have to suffer.² In Nepal, maternal mortality rate is in a decreasing trend from 349 per 100,000 live birth in 2010 to 258 per 100,000 live births in 2015.⁴ Achievement of the efforts on reducing maternal and newborn death has been slow, because of financial and geographical barriers that women have to face while accessing skilled care, as well as the poor quality of care in maternity units.⁶ Evidences suggest that fear of the disrespect and abuse that women too often encounter in facility-based maternity care is a more powerful factor for low utilization of skilled care in the countries with a high maternal mortality rate.^{6,7} Disrespect and abuse are perceived differently and sometimes normalized depending on the specific setting and many maternal health experts have agreed that disrespect and abuse during childbirth carried out in a facility is a major cause of suffering for the women, which acts as a barrier in an effort to achieve the target to reducing maternal mortality and morbidity.⁷ Women's experiences with maternity caregivers can have positive and negative impact; it can empower and comfort the women or it can inflict emotional trauma and lasting damage to the women's psychology. Either way, memories of childbearing experiences stay with women throughout their lifetime.⁸ The focus of RMC is interpersonal aspects of care received by women seeking maternity services.⁶ While many programmes aim to make skilled birth care accessible and less attention has been given on the quality of relationships with caregivers during maternity care, gender equity and gender-based violence is the core of maternity care. So, the notion of safe motherhood must be expanded

Correspondence author: Ganga Panta, Nursing Campus Maharajgunj,
Email:gpanta16@gmail.com

beyond the prevention of morbidity or mortality to encompass respect for women's basic human rights. Women's autonomy, dignity, feelings, choices, and preferences must be respected, including their choice of companionship.⁹ Sexual and reproductive health and right (SRHR) is a crucial aspect of RMC which include making own decision about the own body and get accurate information about those issues, access sexual and reproductive health services including contraception, choose when and who to marry and decide if children is needed and how many. SRHR also includes freedom from all forms of sexual violence, including rape, female genital mutilation, forced pregnancy, forced abortion and forced sterilization.¹⁰

Universal Rights of Childbearing Women

A global campaign was organized by White Ribbon Alliance (WRA) to enhance a standard for RMC under international human rights. In co-ordination with the other global partners, WRA made a consensus document on the Respectful Maternity Care Charter: the Universal Rights of Childbearing Women.⁶ This charter has created a legitimate place for maternal health rights, in the broader context of human right.

1. Every woman has the right to be free from harm and ill treatment: Women will not be abused physically by anyone. All types of physical contact with pregnant women should be gentle, comforting and supportive as possible. Despite the right of freedom from harm and ill treatment many evidences of physical abuse have been reported all over the world. Examples of physical abuse during childbirth are from pinching by service provider to sexual abuse.⁷ Similarly, others are: slapped, restrained during labor, application of unnecessary episiotomy and suturing without the use of anesthesia and pushing on the abdomen to force the baby out.⁹

2. Every woman has the right to information, informed consent and refusal and respect for her choices and preferences, including companionship during maternity care: Women should not be forced to do things without information and informed consent. Explanation of proposed procedures in understandable language is necessary to make them understand to provide consent or refuse a procedure. Examples of non-consented care are not giving women the proper information about procedure, not taking permission to conduct obstetrical procedures (e.g. caesarean section, episiotomies, blood transfusions, sterilization, and augmentation of labor) and coerced into such procedure such as a cesarean section.¹

3. Every woman has the right to privacy and Confidentiality: Health care providers must protect the privacy and confidentiality of patients and their

information during counseling, physical examinations, clinical procedures and while handling records and information. Some examples of violations of privacy and confidentiality for women in birthing centers are delivering baby without privacy and sharing sensitive information, such as patient's marital status, HIV status, medical history etc.

4. Every woman has the right to be treated with Dignity and Respect: pregnant women should not be humiliated and verbally abused by anyone. Care providers must ensure patients as comfortable as possible during procedures. Every woman must be treated with respect and concern. They should be encouraged to express their idea and feeling freely and provide feedback to the service providers. Woman's perception and description of non-dignified care may be very context specific because a women may perceive eye contact, a smile and a handshake from male provider as acceptable in one culture but not in another.³

5. Every woman has the right to equality, freedom from discrimination, and equitable care: No one can discriminate because of something they do not like about pregnant woman. All women are equal and must be treated with respectful care regardless of their ethnic background, culture, social standing, educational lever and economic status. Examples of discrimination during child birth may be based on race, ethnicity, age, language, HIV status, traditional believes and preferences, economic status or educational level.⁶

6. Every woman has the right to health care and to the highest attainable level of health care: No one can prevent the women from getting the needed maternity care. Woman who is going to give birth should never be left alone however sometimes they are neglected & left to deliver by themselves. Women should have companion of their choice throughout labor and birth for continuous support. Examples of abandonment of care in health facilities include; left alone and not giving medical attention, giving birth by themselves or assisted by other patients, not allowed companion into the birthing area and not supervised by care provider even in life threatening situations.

7. Every woman has the right to liberty, autonomy, self determination and freedom from coercion: No one can detain the child bearing women or her baby without legal authority. Some health facilities have been known to prevent women from leaving with their babies, because they cannot pay their bills. This is usually only for a day or two, but there are reports of patients being held for weeks and months. Even women whose babies died have been detained because they could not pay their bills.

Issues related to Respectful Maternity Care

Many women around the world experience disrespect and abuse during the birth of their child in health facilities. Such situation not only violates the right of women to respectful care, but also threatens their rights to life, health, bodily integrity, and freedom from discrimination.¹ Common disrespectful and abusive treatment during childbirth include physical abuse, profound humiliation and verbal abuse, coercive or unconsented medical procedure, lack of confidentiality, failure to get fully informed consent, refusal to give pain medication, gross violation of privacy, refusal of admission to health facilities, neglecting women during childbirth to suffer life-threatening, avoidable complication, and detention of women and their newborns in facilities after childbirth due to an inability to pay.¹⁰

Some factors contributing to disrespectful and abusive behavior are normalization of disrespect & abuse, lack of legal and ethical foundations to address disrespect & abuse, lack of leadership in this area, lack of standards and accountability & providers prejudice due to lack of training and resources.⁵ Several studies have showed that the seven types of disrespect are identified; physical abuse, non-consented clinical care, non-confidential clinical care, non dignified care (including verbal abuse), discrimination, abandonment of care, and detention in facilities, where some amount of overlapping between the types has been observed.⁷ A survey conducted in Kenya revealed that 20% of postpartum women in maternity wards are reported to have a feeling of humiliation. Clients of the maternity service accompanied by their partners or companions during delivery were less likely to experience disrespect and abuse.⁵

However, evidence suggests that in countries suffering from the burden of high maternal mortality, the fear of disrespect and abuse often encountered by the women in facility-based maternity care is a more powerful deterrent for the use of skilled care compared to commonly recognized barriers such as cost or distance.¹² While, published literatures revealed that seven major categories of disrespect and abuse that childbearing women encounter during maternity care. The categories also occur along a continuum from simple disrespect and humiliation to overt violence.¹

A study on RMC in the health facilities of five countries of East and South Africa revealed that many women experienced poor interactions with service providers and were not well-informed about their care. Both physical abuse (e.g. slapping) and verbal abuse of women was found to be existing in the study. The most frequently mentioned form of disrespect and abuse is abandonment and neglect.¹³ Similarly, a systematic

review of 14 studies, revealed that frequency of abuse and disrespect was high, ranging the prevalence from 11% to 71%.¹⁴ A study carried out in low income countries revealed that 98% of the women reported at least one kind of abuse and disrespect during their child birth and a study conducted in Peru also had the similar result, as 97.4% had faced at least one category of disrespect and abuse.¹⁵ Disrespect and abuse was similar across all age groups, educational levels and other socio-demographic characteristics. Non-consented services and physical abuse were the most common types of disrespect and abusive care during institution delivery; they affected 54.5% and 35.7% respondents, respectively.¹⁶ Whereas, non-dignified care (86.2%) was the most common disrespect and abuse in a study conducted in Peru, followed by non-consented care (74.6%) and non confidential care (68.1%).¹⁵ The White Ribbon Alliance (WRA) 5 identified the non-dignified care as the most frequently reported abuse related to the negative and unfriendly attitude of the provider. Such behaviors were influenced by low socio-economic status, lack of education/empowerment of women, poor training and supervision skills of the providers, and ineffective health system. A study¹⁷ identified that 36% women reported physical abuse during child birth, where the remaining 17.3% were restrained or tied down during child birth, followed by episiotomy without anesthesia (9.2%), being beaten, slapped, or pinched (7.2%) and being sexually abused by health worker (2%). The same study revealed that 20% of women reported discrimination on the basis of ethnicity, low economic status, and younger age and HIV positive status.

A qualitative study of Tanzania identified that the most common disrespect and abuse was being neglected/ ignored and verbal abuse. But, the physical abuse was hardly mentioned, and one woman said that she was kept in uncomfortable position forcefully for delivery. Some women felt fearful of being slapped during delivery. Likewise, service providers do monitory demand and discriminatory treatment toward poor women.¹⁸

Study on causes of disrespect and abuse helps the communities and health systems to work out ways to resolve the issues. Some causes are health system factors, community level factors and personal factors. Health system factors include inadequate communication between health care providers, poor human resource management, poor payment and high workload of providers, work related stress, poor supervision and management etc. Similarly, lack of awareness of community people on legal mechanism, accepting disrespect and abuse as normal (e.g., slapping, pinching etc) and abusive practices are viewed as the safety of the mother are some community

level factors for disrespect and abuse.¹⁹

Personal factors include gender inequality, mainly man as the overall decision maker for choice for health facilities and service providers, sometimes creates problem. Lack of knowledge on right to quality care during institution delivery, traditional beliefs, practices, customs and taboos make it difficult to discuss the issues of childbirth. Low socio-economic status leads women to seek services in low-quality facilities where there are prone to disrespect and abuse.⁴

Disrespect and Abuse and Seven Universal Rights of Childbearing Women

Category of Disrespect and Abuse	Corresponding Right
1. Physical abuse	Freedom from harm and ill treatment
2. Non consented care	Right to information, informed consent and refusal, and respect for choices and preferences, including companionship during maternity care
3. Non confidential care	Confidentiality, privacy
4. Non dignified care (including verbal abuse)	Dignity, respect
5. Discrimination based on specific attributes	Equality, freedom from discrimination, equitable care
6. Abandonment or denial of care	Right to timely healthcare and to the highest attainable level of health
7. Detention in facilities	Liberty, autonomy, self-determination, and freedom from coercion ⁵

CONCLUSIONS

Respectful maternity care is an integral element of comprehensive quality health services which include right to be free from harm and ill treatment, right to information & informed consent, right to privacy and Confidentiality, right to be treated with Dignity and Respect, right to equality & freedom from discrimination, right to health care and right to liberty, autonomy and freedom from coercion. Disrespect and abuse of women during childbirth is a failure of the health system and a violation of women's rights, it is also a main obstacle in the efforts made to increase the number of facility-based births. In this situation, the implementation of RMC is very important for the improvement of maternal and neonatal health.

REFERENCES

- 1 White Ribbon Alliance, USAID, Health Policy Project. A Guide For Advocating For Respectful Maternity Care. [Internet]. [cited 2017 Oct 9]. Available from: ISBN- 978-1-59560-016-5
- 2 WHO. Prevention and elimination of disrespect and abuse during childbirth [Internet]. WHO. [Cited 2017 Nov 3]. Available from: http://www.who.int/reproductive_health/topics/maternal_perinatal/statement-childbirth-data/en/
- 3 WHO. The prevention and elimination of disrespect and abuse during facility-based childbirth [Internet]. WHO [Cited 2017 Dec 22]. Available from: <http://apps.who.int/iris/bitstream>
- 4 WHO, UNICEF, UNFPA, World Bank, & UN. Maternal Mortality in 1990-2015, Nepal [Internet]. [Cited 2017 Dec 2]. Available from http://www.who.int/gho/maternal_health/countries/s/n/pl.pdf
- 5 USAID. Promoting respectful maternity care: A training guide for community based workshop. 2014 [Internet]. [Cited 2017 Sep 9]. Available from: https://www.popcouncil.org/uploads/pdfs/2014RH_RMC_CommunityBasedGuideTrainers.pdf

Menopause: Challenges & Solution

Kamala Dhakal¹

¹Maharajgunj Nursing Campus

ABSTRACT

Menopause is one of the most significant events in a woman's life and brings in a number of physiological changes that affect the life of a woman permanently. It is natural biological process, one of the most momentous events in a woman's life and brings in a number of physiological and psychological changes. Physical symptoms such as hot flashes, emotional symptoms are common which usually disrupt sleep, lower energy and affect emotional health adversely. There are many effective treatments available from lifestyle adjustments to hormone therapy.

BACKGROUND

Menopause is defined as generally cessation of periods for 12 months or a period equivalent to three previous cycles or as time of cessation of ovarian function resulting in permanent amenorrhea.¹

It is colloquially known as “the change of life” because it signifies the end of reproductive fertility. It is significant component of the reproductive cycle and is accompanied by profound hormonal changes because there is a drop in the levels of estrogen and progesterone.² The menopausal women experience a complex interaction of socio-cultural, psychological and environmental factors as well as biological changes relating strictly to altered ovarian function.

The various published studies shows considerable variation regarding age of onset of natural menopause and physical/somatic, psychological and genitourinary symptoms presented by postmenopausal women.² Globally, the average menopausal age is around 51 years old, the mean menopausal age is 50.7 years old. Among South Indian women, the mean age at menopause was 48.7 years.³ In Nepal the average age of menopause was 48.7 years.⁴

According to a survey distributed by The North American Menopause Society (NAMS), while 98 percent of women who participated consider bone strength to be an important health concern, nearly half (45 percent) of these women reported that osteoporosis was not addressed during their last routine obstetrics and gynecological visit.⁵

Population based studies among Caucasians reported a higher prevalence of menopausal symptoms ranging from 40% to 60%, as compared to Asian population that ranged between 10% and 40%.⁵⁻⁷ Higher prevalence of musculoskeletal aches and fatigue were reported among Asian women while hot flushes, night

sweats, mood swings and psychological symptoms, although present, were to a lesser extent of severity compared to Caucasian women.⁶

The most common menopausal symptoms among South Indian women were aching in muscle and joints, feeling tired, poor memory, lower backache and difficulty in sleeping. The vasomotor and sexual domains were less frequently complained when compared to physical and psychological domains.³

In Nepal majority of the women 1183 (59.2%) did not know about menopausal health problems. The most common menopausal symptoms experienced by women were joint pain 736 (36.8%), hot flushes 584 (29.2%), irregular bleeding 528(29.1).⁴

Introduction

According to international society of menopause and WHO, Menopause (natural menopause) – is defined as the permanent cessation of menstruation resulting from the loss of ovarian follicular activity. Natural menopause is recognized to have occurred after 12 consecutive months of amenorrhea, for which there is no other obvious pathological or physiological cause.¹ Menopause occurs with the final menstrual period (FMP) which is known with certainty only in retrospect a year or more after the event. An adequate biological marker for the event does not exist.⁷

The woman's life is divided into two phases premenopausal and postmenopausal. The hormonal changes in the body invite many challenges/ problems of menopause. The body starts losing out on bone mass and muscle strength. These weakened bones often result in osteoporosis and arthritis. The skin becomes sunken and sallow and eventually, wrinkles begin to appear. The immune system is no longer able to produce sufficient anti bodies, thereby making the body susceptible to various illness.⁸ Postmenopausal

women show higher chronic levels of pro-inflammatory cytokines MCP1, TNF α , and IL-6 as well as a reduced ability to respond to pathogens or stimuli.⁹ In addition to its role as a pro-inflammatory cytokine, IL-6 is also a key factor in bone reabsorption by osteoclast activation and also seems to be correlative with other diseases that have been associated with menopausal women such as diabetes, atherosclerosis and cardiovascular diseases.¹⁰

The menopause normally occurs between the ages of 45 and 55, although occasionally women may undergo a premature menopause much earlier in their reproductive lives. An 'artificial menopause' may be brought about by hysterectomy. When only the uterus is removed in a pre-menopausal woman, the cyclical changes continue in the ovaries and the subsequent decline of ovarian hormone secretion takes its natural course. However, if the ovaries are removed at the same time, which is often, advised in the late forties.⁶

The hormonal changes during menopause bring physical as well as behavioral changes in a woman. Oestrogen depletion during menopause leads to occurrence of symptoms among women that may affect their quality of life. This includes vasomotor symptoms (e.g. hot flushes, night sweat), psychological symptoms (mood swings, anxiety, and depression), musculoskeletal aches (bony and joint ache), difficulty sleeping and urogenital symptoms (vaginal dryness, dyspareunia, urinary frequency and urgency).⁶

Some of the Common problems of premenopausal women are: Backache and pelvic and joint pain, Constipation Cramp, Deep vein thrombosis, Faintness, Headache, Incontinence Itching, Nose bleeds Passing water often Piles (hemorrhoids) Severe itching and Skin and hair changes Sleeplessness.¹¹

Emotional insecurity haunts their mind due to the fear that she is no longer physically during aging process in women, their social life entirely depends upon their own attitude towards life and most importantly their health. Some women, due to their poor health or other reason may completely shut themselves away from their society. While some may engage themselves in community activities or may engage themselves in doing their hobbies.⁸

So immediate Screening and gynecological investigations are needed for the detection of abnormality. These tests are biopsy of cervix; endometrium; breast, colposcopy, pelvic ultrasound, breast self examination (BSE), dilation and curettage (D&C), hysteroscopy, toluidine blue dye test and bone density test for osteopenia.^{12, 8}

Management: Menopause is dealt with range of management options available for the different

symptoms including:

- Healthy living
- Manage vaginal problems/ dryness
- Hormone replacement therapy
- Natural & complementary therapies

Healthy living

Menopausal symptoms can be managed by healthy eating, a balanced nutritious diet, exercise and relaxation. Women, who try to make their lifestyle as healthy as they can, appear to have less menopause symptoms and those symptoms are less severe.

¹Management of hot flushes: following measures may be used for the correction of hot flushes

- Eat foods with phytoestrogens such as: soy, tofu, whole grains (e.g. oats, barley, brown rice), legumes (e.g. peas, beans, lentils)
- Reduce the intake of caffeine, alcohol, spicy foods
- Use fans or air conditioning operating wherever you can, Carry a small hand fan
- Take plenty of cool fluids
- Wear layers of clothing so this can take off according to need
- Practice relaxation techniques – this might include paced respiration (slow breathing) and mindfulness therapy.
- Use hot flush breathing technique in every morning and every evening for 10 minutes. This can be carry out in quiet, private place where anyone can sit without distraction is effective for such exercise:
- Keep your rib cage still
- Use your stomach muscles to breathe air in and then out through your nose
- Inhale slowly to the count of 5 second
- Exhale for 5 seconds

2 Control weight

A healthy lifestyle during the menopause transition helps with maintaining a healthy weight, bone and heart health, which are all important for preventing disease later in life.

As women age and move through menopause, the fat that used to sit around the hips moves up towards the tummy area. This shift in weight to the tummy area increases the risk of cardiovascular disease, so it is important to try and minimise weight around the tummy area.

Reduce refined sugar and refined carbohydrates from your diet as those are empty calories.

Increase intake of foods that contain phytoestrogens such as soy, chickpeas, lentils, and ground flaxseed. It's best to choose natural foods as sources of these plant estrogens rather than taking supplements. Other foods should include in diet are grains, oats, wheat, brown rice, tofu, almonds, cashews, fresh fruits, and vegetables. These contain fiber and other beneficial nutrients.

3. Maintain sleep

Sleep problems may occur at midlife and during times of hormonal change like menopause. These include problems like insomnia find it difficult to go to sleep and stay asleep. Menopause symptoms, particularly hot flushes and night sweats, can disturb sleep and set off insomnia. The night sweats may change usual pattern of sleep and body learns this new pattern so the broken sleep pattern becomes the new norm.

4. Quit Smoking

Women who smoke may reach menopause one to four years earlier than women who don't smoke. Women who smoke are also more likely to have menopausal hot flushes. Giving up smoking is important because after menopause women have an increased risk of osteoporosis, heart disease and lung cancer, these conditions' all occur at higher rates in women who smoke.^{12,1}

5. Vitamin D & Calcium Therapy

The drop in oestrogen at menopause can speed up bone loss, which can increase a woman's risk of osteoporosis and bone fracture. Adequate calcium and vitamin D levels are important as calcium is essential for building bone, and vitamin D helps to absorb calcium. Postmenopausal women require 1,300 mg of calcium per day. Ideally, this should be obtained from high calcium food sources in the diet such as dairy milk, canned fish with bones, yogurt, spinach, broccoli and almonds. Where this cannot be achieved with diet alone, then calcium supplements may be required to meet the recommended daily intake.

Vitamin D is important for bone health as it helps calcium to be absorbed. The dose of vitamin D supplementation may vary depending on individual levels and requirements. It is suggested that the optimal

level of vitamin D in the blood should be at least 50 nmol/L, and optimal levels are often recommended to be over 75 nmol/L. Vitamin D supplements of at least 800 IU are recommended and often higher doses are prescribed in cases of moderate to severe deficiency. Starting at age 50, begin supplementing diet with 1500 mg of calcium and at least 800 IU of vitamin D3 each day to prevent osteoporosis and maintain bone health.¹³

High-impact exercise (such as running, skipping, jumping, team sports like netball and high-impact aerobics) as well as resistance-type activities (strength training) is beneficial for improving bone mineral density.

6. Phytoestrogens supplement

Phytoestrogens are plant compounds that are similar in chemical makeup to the 'female' sex hormone oestrogen, but are generally weaker. They act at the oestrogen receptor sites in a woman's body and may reduce menopausal symptoms in some women. Phytoestrogens can be found in foods and also in supplements.

The three types of phytoestrogens are:

Isoflavones – good sources include soy products, beans (such as lima beans, chickpeas and lentils) and red clover.

Lignans – good sources include flaxseed (also called linseed), fruit, vegetables and grains

Coumestans – good sources include sprouting seeds such as alfalfa (*Medicago sativa* also called lucerne, flowering plant in the pea family).

About one third of the population has the specific bowel bacteria that converts isoflavones in soy to a more potent phytoestrogen (equol). These women may have some symptom relief from consuming phytoestrogens as part of a balanced diet and in quantities equivalent to those in an Asian diet. This is equivalent to consuming any one of about 100 g of tempeh, 200 g of tofu, 75–100 g of soybeans or 300 g of soy and linseed bread daily.¹¹ There is an increased risk of heart disease after menopause as estrogen is reduced so limit saturated fats and eliminate trans fats from diet.

Managing vaginal problems

The loss of oestrogen at menopause causes vaginal and bladder changes that can cause symptoms such as: vaginal dryness, a dry and painful vulva, pain during intercourse and recurrent urinary tract infections. Some of the ways can manage these symptoms are outlined below:

- ◆ Use lubricants or oil such as sweet almond oil or KY jelly

- ◆ Use vaginal moisturizers such as Replens a low PH gel.
- ◆ Hormone replacement therapy (HRT)

Hormone replacement therapy (HRT), also called menopausal hormone therapy which is used to relieve menopause related symptoms. HRT may also protect against osteoporosis.

Hormone therapy may increase the risk of getting blood clots, heart attacks, strokes, breast cancer, and gallbladder disease. So it should not be used in case of stroke or heart attack, problems in blood clotting, certain kinds of cancers, liver disease, gallbladder disease.^{13,7}

Hormone therapy (HT) involves the administration of synthetic estrogen and progestogen to replace a woman's depleting hormone levels and thus alleviate menopausal symptoms. HT can be prescribed as local (creams, pessaries, rings) or systemic therapy (oral drugs, transdermal patches and gels, implants). Hormonal products available in such preparations may contain the following ingredients: Estrogen alone, Combined estrogen and progestogen, Selective estrogen receptor modulator (SERM) and Gonadomimetics, such as tibolone, which contain estrogen, progestogen, and an androgen.

The estrogens most commonly prescribed are conjugated estrogens that may be equine (CEE) or synthetic, micronized 17 β estradiol, and ethinyl estradiol. The progestins that are used commonly are medroxyprogesterone acetate (MPA) and norethindrone acetate.

The various schedules of hormone therapy include the following:

- ◆ Estrogen taken daily
- ◆ Cyclic or sequential regimens: Progestogen is added for 10-14 days every 4 weeks
- ◆ Continuous combined regimens: Estrogen and progestogen are taken daily^{12,10}.

Natural Therapy

The terms 'natural therapy', 'complementary therapy', 'complementary medicine' and 'alternative therapy' are often used interchangeably to describe therapies or medicines that fall under the umbrella of natural therapies. Menopausal women can use acupuncture, homeopathy, massage, meditation and relaxation therapies, naturopathy, osteopathy, reflexology, vitamin and mineral supplements as a natural therapy to relieve the menopause related problems.^{11,1}

CONCLUSIONS

In menopause many, health issues in women are connected to changing estrogen levels. Consequently, stabilizing hormonal levels seems an obvious strategy to prevent and treat menopausal health issues. But not only do changing estrogen levels lead to metabolic changes in menopausal women causing a variety of health conditions in middle-aged and elderly women, but also life style and nutritional modification play important role to improve the quality of life. Indeed, hormone replacement therapy helps to stabilize hormonal levels, might significantly reduce menopause related symptoms.

REFERENCES

1. Padubidri VG, Daftary SN. Menopause. New Delhi: Reed Elsevier; 2006.
2. Madhavkumar S, Gaikward V, Sudeepa D. A Community based study on Perception about Menopausal symptoms and Quality of Life of Postmenopausal women in Bangalore Rural. *Int J H Sci Res*. 2012; 2(3):49-56.
3. Bairy, L., Adiga, S., Bhat, P., & Bhat, R. Prevalence of menopausal symptoms and quality of life after menopause in women from South India. *Aust N Z J ObstetGynaecol*. 2009; 49(1):106-109. Retrieved from <https://www.dovepress.com/menopausal-symptoms-and-quality-of-life-among-saudi-women-visiting-pri-peer-reviewed-fulltext-article-IJWH>
4. Rajbhandari, S., Subedi, R.K., Dangal, G., Phuyal, A., Vaidya, A., Karki, A., Tuladhar, H., Sharma Gurung, B., Joshi, L., Shrestha, S. Menopausal Health Status of the Nepalese Women. *Journal of Nepal medical Association*. 2017; 56(205):107-111 Retrieved from <http://jnma.com.np/jnma/index.php/jnma/article/view/2907>
5. Ethiraj, V. & John, E. "A study to assess the effectiveness of a structured teaching programme on Bradley method of child birth preparation to antenatal women", *Pondicherry journal of nursing* 2009; 1: (3) 34-37.
6. Fuh JI, Wang SJ, Lu SR, Juang KD, Chiu LM. The Kinmen women-health investigation (KIWI): a menopausal study of a population aged 40-54. *Maturitas* 2001; 39(2): 117-24.
7. Hakim S, Mirghafur M, Seiiedin A. Comparative study of climacteric symptoms in perimenopausal and postmenopausal women in Tabriz, Islamic Republic of Iran. *J Eastern Mediternean Health* 2010; 16: 1165-9.

-
8. Contestabile E, Derzko C. Canadian consensus on menopause and osteoporosis: perimenopause. *J ObstetGynaecol Canada* 2001; 23: 836-41.
 9. Goetzl EJ, Huang MC, Kon J, Patel K, Schwartz JB. Gender specificity of altered human immune cytokine profiles in aging. *Federation of American Societies for Experimental Biology(FASEB) J.* 2010;24: 3580–3589.
 10. Gameiro C, Romao F. Changes in the immune system during menopause and aging. *Front Biosci (Elite Ed)* 2010; 2: 1299–1303.
 11. Subedi M D. *Manual of Midwifery*. Kathmandu: Makalu books and stationers publisher; 2005.
 12. Laufer U and Pamela P. “Birth preparation for antenatal mothers”. *Duke Journal of gender law & policy* 2002; 22: (5) 7-8.
 13. Dutta D C. *Textbook of Gynaecology*. Kolkata: New Central Book Agency (P) Ltd; 2006.

Instruction to Authors for Manuscripts Preparation

INTRODUCTION

Journal of Midwifery Association of Nepal (JMAN) is a peer reviewed scientific journal initiated in May 2018. It will be published annually and articles will be prioritized to publish on sexual, reproductive, maternal and newborn health (SRMNH) on the following category: original article, review article, case report and viewpoint. The first volume will be in a hard copy and online version will be processed at the earliest.

The aim of JMAN is to increase the visibility of the nurse midwives work in SRMNH and midwifery related activities.

SCOPE OF THE JOURNAL

The journal accepts the scientific articles from various faculty and students of different institution, if the subject matter addresses important issues related to SRMNH. The journal would publish peer-reviewed original article, review article, case report, viewpoint and letter to the editor. Preference will be given to original articles with structured methodology.

EDITORIAL PROCESS

The submitted articles will be accepted for publication only after clear indication by the author that the manuscript has not been submitted elsewhere for publication. The editors will review all submitted manuscript initially and decisions will be made based on criteria of originality and scientific content.

All Manuscripts received are duly acknowledged and send to the reviewers. The confidentiality will be maintained till the final decision for the publication. The formalities of information to authors about reviewer's comments and Page proofs will be sent to the corresponding authors. The authors will be informed about the reviewer's comments with : final acceptance/ rejection of manuscript. Articles accepted would be copy for grammar, punctuation, print style and format. Non response to the proof copy may cause delay in the publication or may even get rejected from the editorial board.

The editors reserve the right of refusing to publish articles that have been submitted. JMAN have a policy to discourage articles that have conflict of interest in terms of financial assistance or sponsorship.

MANUSCRIPT SUBMISSION

Manuscripts must be written in clear, concise English and submitted to the 'Editorial Office' of MIDSON. Digital submission in the form of pen drive or through email is required according to the guidelines issued by the journal. All the moral responsibility of such act lies with the main author and the corresponding author. Such acts are regarded as an offence. The manuscript should also include a forwarding, authorship and declaration letter duly signed. Authors should also clearly mention their address along with email address and phone number.

CORRESPONDING ADDRESS:

The Chief editor or The member secretary

Journal of Midwifery Association of Nepal (JMAN)

Midwifery Society of Nepal

Tripureshwor -12, Kathmandu, Nepal

www.midwivesnepal@gmail.com

midson2017@gmail.com

P.O.BOX:554

INSTRUCTIONS TO THE AUTHORS

1. Article should be in English language
2. Articles on sexual reproductive maternal and newborn health including Midwifery care will be prioritized to publish. The articles will be categorized accordingly:
 - ◆ Original article
 - ◆ Review article
 - ◆ Case reports
 - ◆ Viewpoints etc
3. It should be on A4 size paper with double line spacing.
4. Submission of hard copies with Soft copy is mandatory
5. Referencing and citation should be in Vancouver style

MANUSCRIPT PREPARATION

Title page

Title page of the manuscript should contain:

1. Type of manuscript: Original article, Reviews article, Case report, view point etc.
2. Title of the article should be concise (reflect population/sample, variables and setting)
3. The name(s) of the author(s): first name (s) followed by family name (s).
4. The name(s) of the department(s) or institution(s) affiliated to the author(s).

The affiliation should comprise the department, institution, city and nation from which the work originated.

5. For correspondence: The name and full mailing address (including telephone, e-mail address and fax numbers) of the "Corresponding author" is mandatory.
6. Total number of pages, photographs and word counts separately for abstract and for the text (excluding references).

Articles

• Original Article:

- ◆ Size : Up to 3000 words excluding references (up to 30) and abstract (up to 250).
- ◆ Review Article: Up to 3000 words excluding references. abstract (up to 250) (references. up to >15)).
- ◆ Case Report: interesting and rare cases with clinical implications. Size : Up to 1000 words excluding references (up to 10) and abstract (up to 50), photographs. up to three photographs.
- ◆ Letter to the Editor: Should be short, decisive observation. They should not be preliminary observations that need a latter paper for validation. Up to 400 words and 5 references.

Limits for number of images and tables: for all the above-mentioned categories the number of images and tables should not be more than one per 500 words.

ABSTRACT This should be within 250 words on the second page of the manuscript and be presented in a structured format. Introduction, Methods, Results and conclusions in a structured format with key words not more than five alphabetically.

- a) Background:
- b) Methods: (Design, Selection of setting, Sampling and analytical methods)
- c) Results: (giving specific effect sizes and their statistical significance)
- d) Conclusions: It should emphasize new and important aspects of the study
- e) Key words: Not more than 5 words and arrange in alphabetically

BACKGROUND

Provide a context or background for the study (i.e., the nature of the problem and its significance). It should also include objectives, rationale of the study with citation of the relevant literature by following Vancouver style. State the specific purpose or research objective the study

METHODS

The method section should contain: a) Study design b) Duration of study, setting, population, sampling, sampling technique, instrumentation, method of data collection, Ethical consideration, statistical analysis and interpretation of findings.

RESULTS

Results should be presented in logical sequence in the text, as well as in the tables with illustrations. Do not repeat the information in the text and in the tables; emphasize or summarize only important observations. Limit the table number not more than five. All the tables should be numbered with complete sub heading. Tables should be numbered (with Arabic numerals) and each table should be typed on a separate sheet of paper. Tables should be self-explanatory and include a brief descriptive title. Identify statistical measures of variations

DISCUSSION

Emphasize the new and important aspects of the study. Compare the findings of present study with other relevant studies, provide explanation whether it supports your findings, if it differs give probable justification.

CONCLUSIONS

Draw the conclusion from inferences of major findings based on objectives of the study.

REFERENCES

References should be numbered consecutively in the order in which they are first mentioned in the text (not in alphabetic order). Identify references in text, tables, and legends by Arabic numerals in superscript after the punctuation marks. Appropriate links of the references should be provided for the verification and authentication. Source of the references has to be identified by providing the pubmed link or full text links or any other link, after each reference. Add pubmed identification number and DOI number whenever possible. Include the last names and initials of the authors, title of article, name of publications, year published, volume number, and inclusive pages. The style and punctuation of the references should conform to the following examples.

1. Dangal G, Paudel BD, Jha AK. Palliative Care in Resource-poor Settings: Inequalities, Challenges, and Opportunities. J Nepal Health Res Counc. 2017;15(37):I-II. DOI: <http://dx.doi.org/10.3126/jnhrc.v15u3.18837>

Book

1. Magar A, Shrestha RK, Palikhey S, Shrestha S, Dhakal A. Angel's Concise Clinical Methods. Kathmandu: Makalu Publication; 2006.

Tables

Tables should be self-explanatory and should not duplicate textual material. Number tables, in Arabic numerals, consecutively in the order of their first citation in the text and supply a brief title for each. Identify statistical measures of variations, such as standard deviation and standard error of the mean. Table no. should be written in this style. Table heading in title case and text (body) in left alignment. Use the following symbols in sequences.

- *multiple response, statistical significance association
- ** highly significance association

Illustrations (Figures)

Figures should be numbered consecutively according to the order in which they have been cited in the text.

Check lists

1. Manuscript according to author guideline
2. Authorship
3. Declaration

Presentation and format

- ◆ Double spacing
- ◆ Margins 2 mm from all four sides
- ◆ Title page contains all the desired information
- ◆ Abstract provided (not more than 150 words for case reports and 250 words for original articles)
- ◆ Structured abstract provided for an original article
- ◆ Key words provided (three or more) in alphabetically
- ◆ Introduction of 100-150 words
- ◆ Heading in title case (not ALL CAPITALS, not underlined)
- ◆ References cited in superscript in the text without brackets
- ◆ References according to the journal's instructions.

Language and grammar

- American English