

## Development & Validation of stress assessment scale for Maternity Nurses

Dr. Supriya Pottal Ray <sup>1</sup>, Dr N Sujita Devi <sup>2</sup>, Dr K Memchoubi <sup>3</sup>

1,2,3 Associate Professor

Bharati Vidyapeeth (Deemed to be University) College of Nursing, Pune

Obstetrics and Gynecological Nursing

### KEYWORDS

development & validation, stress assessment scale, Maternity Nurses

### ABSTRACT

#### Background:

Maternity & Obstetrical Nursing is a intriguing profession which is high in terms of accuracy, managing emergencies, increased accountability and responsibility. It makes it no less than being a demanding occupation with authority and liability. The midwife serves multiple roles while catering to a woman who may in her antenatal phase, labouring woman or woman enjoying motherhood. While the midwife deals with the woman, she is also accountable to the care of foetus & newborn. Hence a midwife is under pressure situations and needs to perform to the best of her abilities. Numerous studies are conducted on the stress level of Nurses as a whole, but very few literatures is available on the speciality area Nurses. These studies are essential to help Nurses cope up with stressors, identify coping strategies, it is equally essential to know the reasons and develop scale which are tailor made to identify the stress among Nurses from maternity unit.

**Methodology:** Mixed method research design was adopted. The study was conducted in two phases. A quantitative research approach was adopted for the second phase of the study. Approval was received from IEC, BV (DU) CON, Pune. Non-probability purposive sampling technique was used to recruit samples in both the phases. For exploring the stress and coping strategies saturation of data was achieved with 20 Nurses who were working in the labor rooms, antenatal & postnatal wards of different hospitals form the city. In-depth interviews were conducted where the Nurses narrated the most stressful situations they have been through and the strategies they have adopted to face such situations in the near future. The verbatim was coded and themes were generated. Phase two consisted of identifying the factors & the coping strategies which gave rise to the development of Scale to assess stress among maternity nurses. The developed tool was validated by experts from the field of Obstetrics & Midwifery Nursing professionals, physicians and Nurse Practitioners.

**Result:** Analysis of the qualitative arm was done by thematic content analysis which the emergence of 4 themes and 8 sub themes. The codes, sub themes & themes were studied and analyzed critically and stress scale was developed & validated. Themes which emerged from the in-depth interviews were Demanding situations and the efficiency of midwives, second theme framed was raised accountability & responsibility, third theme identified was hand holding to the juniors in crisis situation and the final theme was coping strategies adopted in pressure situations.

Phase second involved the development of stress scale for Maternity Nurses , where a five point Likert scale was developed with items based on facing life threatening situations of mothers, conflicting situations with caretakers, mothers reluctance to treatment protocol, noncompliance of the laboring woman to procedures tool , uncertainty of the treatment plan, excessive workload, staff shortage.

**.Conclusion:** Midwives get impacted by the stressful situation in the antenatal ward, most importantly the labor room, and postnatal wards especially with postnatal bereavement mothers. These situations are stressful for the midwives to handle. The junior midwives need hand holding and support while the senior midwives need to adopt coping strategies, administrators need to look for burnout among the nurse midwives. Hence stress scale developed needs to be utilized in assessing the stress level and identifying solutions for midwives in order to provide a encouraging and reassuring environment to contribute their best.

## Introduction

Nursing professionals come across many situations which are sudden and require them to perform their best. It may a life threatening situation where they needs to act promptly believing in knowledge, skills and instinctiveness. It is in such situations that one can succumb to the pressure or outperform yourself. Hence stress and coping strategies are often viewed as the two sides of the same coin. I the field of midwifery where the nurses monitor two lives at a time , demands accuracy and alertness. It’s an emotionally roller coaster situation for the midwives , who takes up the challenging environment and makes it a blissful journey for the mother .The factors contributing to these stressors may be viewed as environmental. This very environment plays a crucial role in enhancing competence, skill and confidence among midwives. Senior nurses and mentors have an important role in providing learning opportunities, managerial decision-making skills fervent among the novice nurses. By identifying the stressors and coping strategies to deal with them will enhance the decision making skills among the midwives. Hence the present study was undertaken to identify the stressors and coping strategies adopted by nurses , thereby a standard scale can be developed addressing the factors causing the stressors.

## Need of the study:

Nurse-midwives play a critical role in maternal and newborn healthcare, often working in high-pressure environments. Their responsibilities include providing prenatal, intrapartum, and postpartum care, which can be physically, emotionally, and mentally taxing. Stress among nurse-midwives can negatively impact their well-being and patient care quality. Understanding stressors and coping strategies is essential for improving their work conditions and overall job satisfaction. Several factors contribute to the stress experienced by nurse-midwives, including work-Related stressors, high workload and long shifts, extended working hours and unpredictable schedules contribute to exhaustion, emotional demands, handling maternal complications, stillbirths, and neonatal deaths can be emotionally distressing., decision-making pressure, rapid and accurate clinical decisions are required in emergencies, interpersonal conflicts disagreements with colleagues, doctors, or patients’ families and much more. Research findings underline the occurrence of fatigue and empathy fatigue among nurses, as well as their impact on engagement levels. It was reported by Lasebikan et.al that 39.1% of

nurses experience high burnout levels, while Zhang et al. notified that 51.98% of nurses experience burnout and 52.55% face compassion fatigue. Albazon et al. found that 17% of healthcare professionals experience burnout. While in Sam et al. study revealed that 61% of nursing staffs experience high burnout.

### **Aim of the study:**

To assess the workplace stress of the nurses working in maternity units of selected hospitals  
To assess the coping strategies adopted by nurses to cope with workplace stress.  
To develop and validate stress assessment scale for maternity nurses.

### **Methodology:**

Research approach for phase I was qualitative followed by quantitative methodology for Phase II which involved construction and validation of the tool. Design chosen was mixed method design for the present study. The study setting was corporate, private & state-run hospitals with maternity units of a metropolitan city. Sample consisted of Nurses working in the maternity units of these hospitals. Samples were recruited by Nonprobability purposive sampling technique for both the phases of the study. Qualitative arm had eighteen nurses who were interviewed with in-depth interview technique as a tool for data collection. Qualitative wing had fifteen experts who validated the tool constructed. Inclusion criteria had nurses working in the maternity units for minimum 2 years, with language competency of local as well as English language, who had consented participate in the study. Quantitative inclusion had samples who were specialized in maternity nursing, educators, supervisors and independent practitioners.

### **Description of Tool:**

Tool had three sections which included demographic data mentioning age, type of family Degree, Experience in maternity unit, refresher courses attended by the nurses, stress reliving sessions conducted. Section II & III included a guiding questionnaire on Stress & Coping.

Data Collection technique: Qualitative Phase thematic analysis was conducted from the transcribed verbatim of the interviews collected from the nurses working in Maternity units using the guiding questionnaire. Each interview was taken for around an hour duration, field notes were taken. The verbatim was translated and credibility of the data was ensured by re-reading of the verbatim by the participants. A language expert was recruited to ensure the triangulation of the data. For quantitative phase, the tool constructed was given for validation and the scale validity index was calculated. The reliability of assessment tool was calculated by test re-test methodology using Karl Pearson Coefficient formula. Reliability score for the assessment is **0.85** which means tool was reliable.

### **Results:**

#### **Phase I:**

Demographic characteristics revealed that (80%) majority of the Nurses working in the maternity units were in the age group of 40 years & above, the highest qualification of majority of the nurses i.e. (76%) was General Nursing Midwifery. Years of experience varied from 10 years to 20 years of working in the maternity unit. Majority of the nurses i.e. 78% were married.

Thematic analysis was done based on the verbatim of the interviews which was transcribed & translated, codes were formulated sub themes were derived and the themes were generated.

Themes	Sub- Themes
Demanding situations and the efficiency of midwives	<ul style="list-style-type: none"> <li>○ Consistency</li> <li>○ Commitment</li> <li>○ Competency Judgement</li> </ul>
Raised accountability & responsibility	<ul style="list-style-type: none"> <li>○ comply with laws and regulations governing maternal and newborn care.</li> <li>○ update their knowledge and skills to provide evidence-based care.</li> <li>○ providing individualized, respectful, and culturally appropriate care.</li> <li>○ handle complications</li> </ul>
Hand holding to the juniors in crisis	<ul style="list-style-type: none"> <li>○ Quick decision-making and oversight by senior midwives</li> <li>○ Junior midwives gain assurance</li> <li>○ support strengthens collaboration</li> <li>○ preparedness of juniors</li> <li>○ Emotional support from seniors</li> </ul>
Impactful and Transformative Learning in crisis situations	<ul style="list-style-type: none"> <li>○ ethical principles</li> <li>○ doing good</li> <li>○ respecting patient choices</li> <li>○ fairness in care provision</li> </ul>
Positive outlook through Coping strategies adopted	<ul style="list-style-type: none"> <li>○ Relaxation technique</li> <li>○ Emotional Detachment</li> <li>○ Positive Thinking &amp; Self-Talk</li> <li>○ Seeking Emotional Support</li> <li>○ Peer Support</li> <li>○ Teamwork and Delegation</li> </ul>

**Demanding situations and the efficiency of midwives:**

Participants expressed that during pressure situations, they themselves have experienced that delivering competencies with consistency is very crucial . Their commitment to saving the mother, fetus, ensuring delivery is uneventful lays a lot on how consistent they are as midwives in providing care.

**Raised accountability & responsibility**

Participants expressed that “In pressure situations we are concerned about the rules & regulations. Many a times the family members come charging on us if something uneventful occurs.”

“I remember one incident when a mother came to the labor room during my shift , we assessed her FHS as per the protocol, but couldn’t locate and hear it. The relatives blamed the nurses for the loss of the child”

**Hand holding to the juniors in crisis**

Participants who were with less experience verbalized that when seniors guide them to tackle cases such as post abortion care & counselling, prenatal bereavement, counselling of infertility. It is looked at as support and mentoring for novice nurses.

### Impactful and Transformative Learning in crisis situations

Participants verbalized that it was a learning experience in difficult situations which has had a lasting impression on them. Senior nurses and other healthcare professionals taught them to handle critical situation some where tough decisions had to be taken.

Positive outlook through Coping strategies adopted

“I need to emotionally detach myself from the situations I face daily and therefore practice meditation, take long walks and spend time with my family”

“I believe teamwork and assigning & delegation work to the fellow staff also eases my burden”

“Though I am overworked but positive thinking & self-realization works for me “

The above verbatim are of the Nurses who Find different ways of coping with the situations they are in, hence having a positive outlook and developing coping strategies was one of the themes generated.

Phase II was the development & validation of stress assessment scale for maternity nurses based on the qualitative analysis.

Phase second involved the development of stress scale for Maternity Nurses , where a five point Likert scale was developed, with scoring as always, often, sometimes, rarely and never. Items were based on facing life threatening situations of mothers, conflicting and demanding situations with caretakers, accountability and responsibility, hand holding of the juniors, uncertainty of the treatment plan, Impactful and Transformative Learning in crisis situations, staff shortage, Positive outlook through Coping strategies adopted. The developed tool on the basis of the qualitative analysis done was validated by 15 experts.

S.No	Items
1	How adaptive are you to deal with stressful situations
2	How often do you face life threatening situations for the patients
3	Does your quality of work get affected due to staff shortage
4	Does your work always require complete attention
5	Do you find yourself emotionally affected while caring for mothers
6	How often are you mentored by your seniors
7	How often do you mentor your subordinates
8	Do you feel responsible if the treatment plan does not work for your client
9	Have you availed opportunities for professional development
10	How often do you contribute in formulating care plan for your client
11	Are you involved in decision making for your client in the labor room
12	How often are you on “on-call” duty
13	How often has your scheduled leave been cancelled
14	Has your working hours affected your personal life
15	Do you find time for relaxation
16	How often do you engage in me time

#### Validation of the tool

##### Experts Validation

S-CVI                      0.884

#### Discussion:

Midwives and nurses are subjected to pressure situation amounting to stress , this is viewed as eustress for some , for a few others it leads to stress .These stressors may have an impact on

the professionals lives of nurse midwives and may hamper the productivity. Therefore it is of paramount importance that qualitative studies need to identify the stressors, measure their actual stress levels by having specific scales to do so. With the identification and validation of stress scales programs should be organized for the midwives. Qualitative themes should be more fully explored to identify specific contributors to midwifery stress.

#### Conclusion:

The work environment of nurses is dynamic and constantly changing. The stress measurement scale needs to reflect the changing nature of the profession and the workplace and the stresses that come with those changes. The scales used to measure coping among nurses are not specific to the nursing even though they are widely used and accepted in general coping research. An attempt is made in this research to develop measurement scales in order to measure workplace stress and coping, taking into consideration the emerging stressors and coping strategies used at the workplace. This study intends to extend research in scale development in order to devise valid and reliable measurement scales and to develop a process model of workplace stress and coping.

**Conflict of interest:** The author certify that there us no any involvement in any other organization or entity with any financial or non financial interest in the subject of matter or material discussed in this study.

**Finding Source:** There is no any funding source for this study.

#### References:

1. Suresh K. Sharma. Nursing research and statistics. 3<sup>rd</sup> edition. Elsevier India, 2018.
2. Wright EM, Matthai MT, Budhathoki C. Midwifery Professional Stress and Its Sources: A Mixed-Methods Study. *J Midwifery Womens Health*. 2018 Nov;63(6):660-667. doi: 10.1111/jmwh.12869. Epub 2018 Oct 15. PMID: 30320495.
3. Rezaei, B., Falahati, J. & Beheshtizadeh, R. Stress, stressors and related factors in clinical learning of midwifery students in Iran: a cross sectional study. *BMC Med Educ* 20, 78 (2020). <https://doi.org/10.1186/s12909-020-1970-7>
4. Development and validation of an emotional labour scale for nurses [Jiyeon Hong, Oksoo Kim](https://doi.org/10.1111/jonm.12705), 22 August 2018 <https://doi.org/10.1111/jonm.12705>
5. McCarthy B, Trace A, O'Donovan M, Brady-Nevin C, Murphy M, O'Shea M, O'Regan P. Nursing and midwifery students' stress and coping during their undergraduate education programs: an integrative review. *Nurse Educ Today*. 2018;61:197-209. <https://doi.org/10.1016/j.nedt.2017.11.029>
6. Mivšek P, Äimälä AM, Žvanut B, Tuomi J. Midwifery students' well-being among undergraduates in Slovenia: a pilot study. *Midwifery*. 2018;61:63-70. <https://doi.org/10.1016/j.midw.2018.02.020>.

7. [Midwives' emotional wellbeing: impact of conducting a structured antenatal psychosocial assessment \(SAPSA\)](#). Mollart L, Newing C, Foureur M. *Women Birth*. 2009 Sep;22(3):82-8. doi: 10.1016/j.wombi.2009.02.001. Epub 2009 Mar 13. PMID: 19285935
8. [Developing midwifery practice through work-based learning: an exploratory study](#). Marshall JE. *Nurse Educ Pract*. 2012 Sep;12(5):273-8. doi: 10.1016/j.nepr.2012.06.003. Epub 2012 Jun 30. PMID: 22749493
9. Abu Al Rub, R. F. (2004). Job Stress, Job Performance, and Social Support among Hospital Nurses. *Journal of Nursing Scholarship*, 36, 73–78. Abu Al Rub, R. F. (2006).
10. Replication and Examination of Research Data on Job Stress and Co-worker Social Support with Internet and Traditional Samples. *Journal of Nursing Scholarship*, 38, 200–204. doi: 10.1111/j.1547- 5069.2006.00101.x Amirkhan, J. H. (1990).
11. A factor analytically derived measure of coping: The Coping Strategy Indicator. *Journal of Personality and Social Psychology*, 59, 1066- 1075. Amirkhan, J.H. (1994a).
12. Criterion validity of a coping measure. *Journal of Personality Assessment*, 62, 242-261. Arbuckle, J.L., and Wothke, W. (2008). AMOS 17.0 User Guide. Arslan, S. (2015).
13. Investigating the Stress Level of Nurses Working at Emergency Care Services : A Pilot Study. *International Journal of Caring Sciences* 8(2), 420–426. Bartlett D. (1998).
14. Stress, Perspectives and Processes. Health psychology Series. Chapter1. Stress and Health. OUP, Buckingham, 1–21. Beh, L. (2012).
15. Job Stress and Coping Mechanisms among Nursing Staff in Public Health Services. *Leap-Han Loo*, 2(7), 131–176. *Workplace Stress and Coping Strategies in the Nursing Profession* Goa University Page 210 Best, J.N. & Kahn, J.V. (1992).
16. Research in education. New Delhi: Prentice hall publications. Bhatia, N., Kishore, J., Anand, T., Jiloha, R. C., Azad, M., College, M., & Delhi, N. (2010).
17. Occupational Stress amongst Nurses from Two Tertiary Care Hospitals in Delhi. *Australasian Medical Journal*, 731–738. doi:10.4066/AMJ.2010.289 Bond, D. C., & Carlson, D. (1994).
18. The measured intensity of work-related stressors in pediatric oncology nursing. *Journal of pediatric oncology nursing: official journal of the Association of Pediatric Oncology Nurses*, 11(2), 44. doi:10.1177/104345429401100202