Use of WHO standards to improve quality of maternal and newborn hospital care: a study collecting both mothers’ and staff perspective in a tertiary care hospital in Italy.

**Supplementary file**

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# Supplementary Table 1. SQUIRE 2.0 Checklist

|  |  |
| --- | --- |
| **Text section and item name** | **Page/line no(s).** |
|  | **info is located** |
| **Title and abstract** |  |
| **1. Title** |  |
| Indicate that the manuscript concerns an initiative to improve healthcare (broadly defined to include the quality, safety, effectiveness, patient-centredness, timeliness, cost, efficiency and equity of healthcare). | Page 1 |
| **2. Abstract** |  |
| a. Provide adequate information to aid in searching and indexing. | Page 2 |
| b. Summarise all key information from various sections of the text using the abstract format of the intended publication or a structured summary such as: background, local problem, methods, interventions, results, conclusions. | Page 2 |
| **Introduction: Why did you start?** |  |
| **3. Problem description** - Nature and significance of the local problem. | Page 4 |
| **4. Available knowledge** - Summary of what is currently known about the problem, including relevant previous studies. | Page 4-5 |
| **5. Rationale** - Informal or formal frameworks, models, concepts and/or theories used to explain the problem, any reasons or assumptions that were used to develop the intervention(s) and reasons why the intervention(s) was expected to work | Page 4-5 |
| **6. Specific aims** - Purpose of the project and of this report. | Page 5 |
| **Methods: What did you do?** |  |
| **7. Context** - Contextual elements considered important at the outset of introducing the intervention(s). | Page 5 |
| **8. Intervention(s)** |  |
| a. Description of the intervention(s) in sufficient detail that others could reproduce it. | Page 5-8 |
| b. Specifics of the team involved in the work. | Page 5-8 |
| **9. Study of the intervention(s)** |  |
| a. Approach chosen for assessing the impact of the intervention(s). | Page 9 |
| b. Approach used to establish whether the observed outcomes were due to the intervention(s). | Page 5-9 |
| **10. Measures** |  |
| a. Measures chosen for studying processes and outcomes of the intervention(s), including rationale for choosing them, their operational definitions and their validity and reliability. | Page 7-9 and  Supplementary Tables  2, 3 and 4 |
| b. Description of the approach to the ongoing assessment of contextual elements that contributed to the success, failure, efficiency and cost. | Page 6-9 |
| c. Methods employed for assessing completeness and accuracy of data. | Page 9-10 |
| **11. Analysis** |  |
| a. Qualitative and quantitative methods used to draw inferences from the data. | Page 9-10 |
| b. Methods for understanding variation within the data, including the effects of time as a variable. | Page 9-10 |
| **12. Ethical considerations** - Ethical aspects of implementing and studying the intervention(s) and how they were addressed, including, but not limited to, formal ethics review and potential conflict(s) of interest. | Page 10 |
| **Results: What did you find?** |  |
| **13. Results** |  |
| a. Initial steps of the intervention(s) and their evolution over time (e.g., time-line diagram, flow chart or table), including modifications made to the intervention during the project. | Page 10 |
| b. Details of the process measures and outcomes. | Page 10 |
| c. Contextual elements that interacted with the intervention(s). | Page 10 |
| d. Observed associations between outcomes, interventions and relevant contextual elements. | Supplementary Table 6,7 |
| e. Unintended consequences such as unexpected benefits, problems, failures or costs associated with the intervention(s). | Supplementary Table 8 |
| f. Details about missing data. | Page 11 and  Supplementary Table 5 |
| **Discussion: What does it mean?** |  |
| **14. Summary** |  |
| a. Key findings, including relevance to the rationale and specific aims. | Page 26 |
| b. Particular strengths of the project. | Page 26 |
| **15. Interpretation** |  |
| a. Nature of the association between the intervention(s) and the outcomes. | Page 26 |
| b. Comparison of results with findings from other publications. | Page 26 |
| c. Impact of the project on people and systems. | Page 26-28 |
| d. Reasons for any differences between observed and anticipated outcomes, including the influence of context. | Page 26-28 |
| e. Costs and strategic trade-offs, including opportunity costs. | NA |
| **16. Limitations** |  |
| a. Limits to the generalisability of the work. | Page 27-28 |
| b. Factors that might have limited internal validity such as confounding, bias or imprecision in the design, methods, measurement or analysis. | Page 27-28 |
| c. Efforts made to minimise and adjust for limitations. |  |
| **Conclusions** | Page 28 |
| a. Usefulness of the work. | Page 28 |
| b. Sustainability. | Page 28 |
| c. Potential for spread to other contexts. | Page 28 |
| d. Implications for practice and for further study in the field. | Page 28 |
| e. Suggested next steps. | Page 28 |
| **Other information** |  |
| **18. Funding** - Sources of funding that supported this work. Role, if any, of the funding organisation in the design, implementation, interpretation and reporting. | Page 28 |

# Supplementary Table 2. Procedures of validation

|  |  |  |
| --- | --- | --- |
| **Construct Validation** | **Content and concepts** | |
| **Mothers questionnaire** | **Hospital staff questionnaire** |
| The questionnaire was designed after a large literature review performed in three stages:   * First: thematic analysis of the content of questionnaires used to explore the childbirth experience in recent national surveys and scientific literature (UK,[[1]](#footnote-1) US,[[2]](#footnote-2) Brazil,[[3]](#footnote-3) European Multi-country survey,[[4]](#footnote-4) Italy,[[5]](#footnote-5) Slovenia,[[6]](#footnote-6) Slovakia,[[7]](#footnote-7) Hungary, [[8]](#footnote-8)and others). This stage allowed to map items of the questionnaire into the following thematic categories: personal history information (eg, sociodemographic variables such as age, place of birth, language spoken, family composition, school degree and type of work); clinical history (eg, type of delivery, need of induction or augmentation, etc.), timely care, involvement in care, support received, information received, privacy and respect, companionship, preferences and general satisfaction. * Second: items were selected, extracted and incorporated in the questionnaire from the “Respectful Maternity Care Charter: The Universal Rights of Childbearing Women (2011)”,[[9]](#footnote-9) a chart endorsed by WHO, the International Federation of Gynecology and Obstetrics (FIGO), and the International Confederation of Midwives. * Third: we selected and included in the questionnaire, according to predefined criteria (see **Supplementary Table 3**), relevant quality measures of the “WHO Standards for Improving Quality of Maternal and Newborn Care in Health Facilities (2016)”.[[10]](#footnote-10)   The resulting length of the questionnaire was: 153MCQ + 3 OQ | The questionnaire was designed after a large literature review performed in three stages:   * First: thematic analysis of factors influencing the health professionals’ performance and perception of quality of care reported in recent studies. This stage allowed to map the items of the questionnaire into the following main thematic categories: evidence-based medicine; use of data; communication; support systems; privacy and respect; informed consent; quality of care improvements; general work satisfaction, personal information (eg, socio-demographic variables such as gender, profession and years of working experience in maternal and neonatal field). * Second: items were extracted and incorporated in the questionnaire from the “Respectful Maternity Care Charter: the Universal Rights of Childbearing Women (2011)”,8 a chart endorsed by WHO, the International Federation of Gynecology and Obstetrics (FIGO), and the International Confederation of Midwives. * Third: we selected and included in the questionnaire, according to predefined criteria, relevant quality measures of the “WHO Standards for Improving Quality of Maternal and Newborn Care in Health Facilities (2016)”.9   The resulting length of the questionnaire was: 102 MCQ |
| **Field testing and expert validation** | |
| The questionnaire was tested in a sample of 29 mothers, selected on a voluntary basis. Mothers with different characteristics (age, education, parity, etc) were included. They reviewed the questionnaire individually and provided a written feedback.  The draft version of the questionnaire was also submitted to a panel of 16 experts with experience on research in QMNC issues (obstetricians, neonatologists, midwives, epidemiologists), for content validity and construct coherence. Experts reviewed the questionnaire independently in a firth phase and in an extensive group discussion meeting, in a second phase.  The main goal was to identify items that required rewording, or removal or additions, based on the local contest and the characteristics of the expected respondents (eg, language, education and habits).  Overall, 48 MCQ plus 1 OQ questions were removed in this phase, while 13 new MCW were added. The resulting length of the questionnaire was (153MCQ + 3 OP) - (48MCQ – 1OP) + 13MCQ = 118MCQ + 2OP.  The final version of the questionnaire was organized into five sections that were described in a comprehensible and “user-friendly” way: 1) Your baby; 2) Your pregnancy; 3) Admission, your labor and birth; 4) Puerperium 5) Final suggestions.  The final version of the questionnaire was re-tested in a sample of 19 mothers, selected on a voluntary basis, with different characteristics (age, education, parity, etc). They reviewed the questionnaire individually and provided a written feedback. | The questionnaire was tested in a sample of 14 health professionals, selected on a voluntary basis, and with different characteristics (doctors, midwifes, etc). They reviewed the questionnaire individually and provided a written feedback.  The draft version of the questionnaire was also submitted to a panel of 16 experts with experience of research in QMNC issues (obstetricians, neonatologists, midwives, epidemiologists), for content validity and construct coherence. Experts reviewed the questionnaire independently in a firth phase and in an extensive group discussion meeting, in a second phase.  The main goal was to identify items that required rewording, or removal or additions, based on the local contest and the characteristics of the expected respondents (eg, language, education and habits).  Overall, 17MCQ plus 1 OQ questions were added. The resulting length of the questionnaire was (102MCQ) + (17MCQ + 1OQ) = 119 MCQ + 1OQ.  After that, the final questionnaire was organized into two main sections: A) WHO Standards (evidence-based medicine; use of data; communication with users and family; communication among health professionals; privacy, respectful care, informed consent and emotive support; hospital staff and quality improvements); B) Social demographics data.  The final version of the questionnaire was re-tested in a sample of 10 professionals, selected on a voluntary basis, with different characteristics (age, education, parity, etc). They reviewed the questionnaire individually and provided a written feedback. |

Abbreviations. MCQ= multiple choice questions; OQ= open questions

# Supplementary Table 3. Criteria used for the selection of the WHO quality statements

|  |  |  |  |
| --- | --- | --- | --- |
| **Quality statement** | **Mothers**  **questionnaire** | **Hospital staff**  **questionnaire** | **Justification**  **(when not used)** |
| Quality statement 1.1a: Women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care. | x | x |  |
| Quality statement 1.1b: Newborns receive routine care immediately after birth. | x | x |  |
| Quality statement 1.1c: Mothers and newborns receive routine postnatal care. | x | x |  |
| Quality statement 1.2: Women with pre-eclampsia or eclampsia promptly receive appropriate interventions, according to WHO guidelines. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 1.3: Women with postpartum haemorrhage promptly receive appropriate interventions, according to WHO guidelines. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 1.4: Women with delay in labour or whose labour is obstructed receive appropriate interventions, according to WHO guidelines. | x | x |  |
| Quality statement 1.5: Newborns who are not breathing spontaneously receive appropriate stimulation and resuscitation with a bag-and-mask within 1 min of birth, according to WHO guidelines. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 1.6a: Women in preterm labour receive appropriate interventions for both themselves and their babies, according to WHO guidelines. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 1.6b: Preterm and small babies receive appropriate care, according to WHO guidelines. | x | x |  |
| Quality statement 1.7a: Women with or at risk for infection during labour, childbirth or the early postnatal period promptly receive appropriate interventions, according to WHO guidelines. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 1.7b: Newborns with suspected infection or risk factors for infection are promptly given antibiotic treatment, according to WHO guidelines. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 1.8: All women and newborns receive care according to standard precautions for preventing hospital-acquired infections. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 1.9: No woman or newborn is subjected to unnecessary or harmful practices during labour, childbirth and the early postnatal period. | x | x |  |
| Quality statement 2.1: Every woman and newborn has a complete, accurate, standardized medical record during labour, childbirth and the early postnatal period | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 2.2: Every health facility has a mechanism for data collection, analysis and feedback as part of its activities for monitoring and improving performance around the time of childbirth. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 3.1: Every woman and newborn is appropriately assessed on admission, during labour and in the early postnatal period to determine whether referral is required, and the decision to refer is made without delay. | x | - | This indicator can’t be adequately measured by hospital staff’ opinions.  Not epidemiologically significant for the of care provided, i.e., tertiary hospital |
| Quality statement 3.2: For every woman and newborn who requires referral, the referral follows a pre-established plan that can be implemented without delay at any time. | - | - | This indicator can’t be adequately measured by mothers’ or hospital staff opinions.  Not epidemiologically significant for the level of care provided, i.e., tertiary hospital |
| Quality statement 3.3: For every woman and newborn referred within or between health facilities, there is appropriate information exchange and feedback to relevant health care staff. | - | - | This indicator can’t be adequately measured by mothers’ opinions.  Not epidemiologically significant for the level of care provided, i.e., tertiary hospital |
| Quality statement 4.1: All women and their families receive information about the care and have effective interactions with staff. | x | x |  |
| Quality statement 4.2: All women and their families experience coordinated care, with clear, accurate information exchange between relevant health and social care professionals | x | x |  |
| Quality statement 5.1: All women and newborns have privacy around the time of labour and childbirth, and their confidentiality is respected. | x | x |  |
| Quality statement 5.2: No woman or newborn is subjected to mistreatment, such as physical, sexual or verbal abuse, discrimination, neglect, detainment, extortion or denial of services. | x | x |  |
| Quality statement 5.3: All women can make informed choices about the services they receive, and the reasons for interventions or outcomes are clearly explained. | x | x |  |
| Quality statement 6.1: Every woman is offered the option to experience labour and childbirth with the companion of her choice. | x | x |  |
| Quality statement 6.2: Every woman receives support to strengthen her capability during childbirth. | x | x |  |
| Quality statement 7.1: Every woman and child has access at all times to at least one skilled birth attendant and to support staff for routine care and management of complications. | x | x |  |
| Quality statement 7.2: The skilled birth attendants and support staff have appropriate competence and skills mix to meet the requirements of labour, childbirth and the early postnatal period. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |
| Quality statement 7.3: Every health facility has managerial and clinical leadership that is collectively responsible for developing and implementing appropriate policies and fosters an environment that supports facility staff in continuous quality improvement. | x | x |  |
| Quality statement 8.1: Water, energy, sanitation, hand hygiene and waste disposal facilities are functioning, reliable, safe and sufficient to meet the needs of staff, women and their families. | x | - | This indicator can’t be adequately measured by hospital staff opinion. |
| Quality statement 8.2: Areas for labour, childbirth and postnatal care are designed, organized and maintained so that every woman and newborn can be cared for according to their needs in private, to facilitate the continuity of care. | x | x |  |
| Quality statement 8.3: Adequate stocks of medicines, supplies and equipment are available for routine care and management of complications. | - | x | This indicator can’t be adequately measured by mothers’ opinions. |

# Supplementary Table 4. Template for agreeing actions for quality improvement

**Date: \_\_\_\_\_\_ Group: □ Neonatologist □Obstetric □Managers**

**Participants:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PRIORITY** | **IDENTIFIED CAUSES** | **SPECIFIC OBJECTIVE TO REACH (TARGET)** | **CONCRETE PROPOSED ACTIONS** | **ORGANIZATIONAL LEVEL AND TIMELINES** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Instructions:**

1. Identify a moderator whose duty is to make sure that the pre-defined template is filled in pre-established time (45 minutes total), that everyone has the right to speak and actively participate, and that the final version of the table corresponds to group opinions
2. Identify a secretary whose job is to take notes, summarize the opinions of the group in the template, act as a presenter in plenary (10 min maximum), save the template in an electronic file (the results will be attached to final report that will be distributed)
3. Participants are requested to make concise and specific interventions lasting up to 1-2 minutes, leaving the possibility to express their opinions to others. It is required to make proposals with a problem-solving attitude
4. We recommend to fill the first column first (identify all priorities) during the first 5-10 minutes (the moderator will check time), then the other lines in horizonal (30 min, about 5 minutes for each row), leave 5-10 for a final summary
5. Is not necessary to identify 20 priorities, 5-10 are enough. For the same priority it’s possible to specify 1 or more actions
6. Some examples of different possible actions:

* *development of policies and operational plans (for training, quality, work conditions, and other aspects)*
* *development of protocols and procedures*
* *theoretical and practical training (related to EBM clinical practices, communication and conselling, quality of care, patient rights, indicators, ethical and legal aspects, stress and aggression management, etc.)*
* *periodical audit (clinical, on indicators), team meetings*
* *adopt quality standards and targets and implement a monitoring system with periodic analyzes and discussions of data*
* *actions to encourage team work and collaboration between services (including between hospital and territory: memorandum of understanding, staff rotation, periodic meetings etc*
* *user involvement systems: informative material, systems of active involvement in policies, etc*
* *epidemiological research, intervention and implementation network with collaborations between hospitals and hospitals with the territory*

Actions should be **SMART: Specific, Measurable, Achievable, Realistic, Time-bound** in the real context of our Institute, over the next 2 years

# Supplementary Table 5. Characteristics of missing cases

**Mothers survey**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Enrolled**  **N= 1050 (%)** | **Missing cases**  **N= 901 (%)** | **p value** |
| Primiparous | 540 (51.4) | 513 (56.9) | **0.01** |
| Multiparous | 510 (48.5) | 388 (43.1) | **0.01** |
| Unassisted vaginal birth | 703 (66.9) | 624 (69.2) | 0.27 |
| Instrumental vaginal birth | 104 (9.9) | 85 (9.4) | 0.78 |
| C-section | 243 (23.9) | 192 (21.3) | 0.36 |
| Neonatal unit | 106 (10.0) | 112 (12.4) | 0.11 |
| Twins | 15 (1.4) | 20 (2.2) | 0.25 |

**Hospital staff survey**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Enrolled**  **N= 105 (%)** | **Missing cases**  **N= 27 (%)** | **p value** |
| Women | 93 (88.6) | 21 (77.8) | 0.25 |
| Midwife | 36 (34.3) | 5 (18.5) | 0.17 |
| Nurse | 27 (25.7) | 6 (22.2) | 0.90 |
| Obstetrician | 15 (14.3) | 10 (37.0) | **0.01** |
| Neonatologist | 9 (8.6) | 1 (3.7) | 0.65 |
| Obstetrician resident | 6 (5.7) | 5 (18.5) | 0.07 |

# Supplementary Table 6. Subgroup analysis by type of professionals

|  |  |  |  |
| --- | --- | --- | --- |
| **Non-EBM obstetric practices (Always / Often / Sometimes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Continuous CTG in low-risk pregnancy | 54 (81.8) | 3 (8.1) | < 0.0001 |
| Restrictions to freedom of movement during labour | 46 (69.7) | 8 (21.6) | < 0.0001 |
| Restrictions to position of women choice during birth | 50 (76.9) | 6 (16.2) | < 0.0001 |
| Restrictions to oral intake (food, water) during labour without caesarean section risk\* | 38 (57.6) | 5 (13.5) | < 0.0001 |
| Labour augmentation\* | 44 (67.7) | 3 (8.3) | < 0.0001 |
| Instrumental delivery without indication\* | 37 (56.0) | 9 (24.3) | < 0.001 |
| Episiotomy without indication\* | 37 (56.0) | 7 (18.9) | < 0.001 |
| Kristeller manoeuvre | 42 (63.6) | 6 (16.2) | < 0.0001 |
| Routine pubic or perineal shaving\* | 13 (18.2) | 1 (2.8) | 0.042 |
| **Non-EBM neonatal practices (Always / Often / Sometimes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Immediate cord clamping (before 1-3 min) without neonatal emergency\* | 36 (54.5) | 6 (16.2) | < 0.001 |
| Formula feeding without medical indication\* | 32 (48.5) | 9 (23.7) | 0.020 |
| **Availability of updated clinical protocols\* (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Care of low risk newborn | 12 (18.2) | 24 (64.9) | < 0.0001 |
| Obstetrics emergencies | 33 (50.0) | 9 (24.3) | 0.018 |
| Neonatology emergencies | 22 (33.3) | 33 (86.8) | < 0.0001 |
| **Regular training\* (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Care of low risk newborn | 5 (7.6) | 10 (27.0) | 0.018 |
| **Skills and drills / in-service training\* (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Care of low risk newborn | 3 (4.5) | 7 (18.9) | 0.047 |
| **Proper equipment and supplies\* (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Obstetrics emergencies | 56 (84.8) | 15 (40.5) | < 0.0001 |
| **Communication among professionals (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Handover protocols\* | 1 (1.5) | 11 (28.9) | < 0.0001 |
| **Reasons for an inadequate communication with mothers and families**  **(A lot / Enough )** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| * Excessive workload * Aggressiveness and / or rudeness of users | 56 (84.8)  32 (49.2) | 22 (57.9)  10 (27.0) | < 0.001  0.045 |
| **Respect and dignity during care (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Women choices and preferences respected\* | 17 (25.8) | 22 (61.1) | 0.001 |
| **Reasons for violation of privacy (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| * Lack of adequate physical structure or organization (protocols) * Lack of adequate number of staff | 22 (33.4)  9 (13.6) | 20 (55.6)  0 (0) | 0.049  0.032 |
| **Human resources management (yes)** | **Staff of maternal area**  **N (%)** | **Staff of neonatal area**  **N (%)** | **p value** |
| Encouragement to collaborative group practices\* | 4 (6.1) | 8 (22.2) | 0.039 |

Notes: The table summarizes all indicators were a significant difference among groups was observed; \* WHO quality standard.

Abbreviations: CTG = Cardiotocography; EBM = evidence-based medicine.

# Supplementary Table 7. Answer of hospital staff to the questions “Is it important to improve the QMNC in your institution, in respect to the following area?”

|  |  |  |
| --- | --- | --- |
| **Areas** | **Yes, it is crucial**  **N (%)** | **Yes, but it is not a priority**  **N (%)** |
| * Institutional organization and human resources * Use of data for improvement of care * Training in communication skills * Training in EBM practices and monitoring * Knowledge and skills for providing emotional support to service users * Overall communication with mothers and families * Privacy and respectful care * Knowledge and skills on pain relief methods to help mothers and newborns | 98 (94.2)  86 (84.3)  79 (78.2)  73 (77.7)  76 (73.8)  68 (66.0)  59 (57.3)  56 (56.0) | 6 (5.8)  16 (15.7)  17 (16.8)  11 (11.7)  19 (18.4)  24 (23.3)  32 (31.1)  29 (29.0) |

# Supplementary Table 8. Comparison among the answers of hospital staff versus mothers

|  |  |  |  |
| --- | --- | --- | --- |
| **Communication** | **Hospital staff**  **N (%)** | **Mothers**  **N (%)** | **p value** |
| Adequate communication with mothers and families\* | 27 (26.2) | 936 (89.1) | < 0.0001 |
| Adequate handover\* | 45 (43.3) | 828 (78.9) | < 0.0001 |
| **Respect and dignity during care** | **Hospital staff**  **N (%)** | **Mothers**  **N (%)** | **p value** |
| Women choices and preferences respected\* | 39 (38.2) | 788 (75.1) | < 0.0001 |
| Events of physical or verbal abuse\* | 14 (14.4) | 7 (0.7) | < 0.0001 |
| Partner/companion of woman choice encouraged\* | 62 (60.8) | 534 (50.9) | 0.07003 |
| Emotional support\* | 20 (19.6) | 849 (80.9) | < 0.0001 |

Note: \* WHO Quality Standard.

1. University of Oxford (2018). National Maternity Survey 2014. Redshaw M, Henderson J. Safely delivered a national survey of women's experience of maternity care 2014. The National Perinatal Epidemiology Unit. https://www.npeu.ox.ac.uk/maternity-surveys (accessed 08 Jun 2018).

   Hundley V, Rennie AM, Fitzmaurice A, Graham W, van Teijlingen E, Penney G. A national survey of women's views of their maternity care in Scotland. Midwifery. 2000 Dec;16(4):303-13. Erratum in: Midwifery 2001 Jun;17(2):161.

   Dignity in Childbirth: The Dignity Survey 2013: Women’s and midwives’ experiences of dignity in UK maternity care.© Birthrights 2013 Printed in London, October 2013 [↑](#footnote-ref-1)
2. Declercq ER, Sakala C, Corry MP, et al. Listening to Mothers III: report of the third national U.S. survey of women's childbearing experiences. May 2013. New York: Childbirth Connection. http://transform.childbirthconnection.org/reports/listeningtomothers/ (accessed 08 Jun 2018). [↑](#footnote-ref-2)
3. Birth in Brazil (2014). National Enquiry into Labour and Birth. Leal MC, Garna SGN, Torres JA, et al. Nascer no Brasil. Sumário executivo da pesquisa. http://www6.ensp.fiocruz.br/nascerbrasil/ (accessed 08 Jun 2018) [↑](#footnote-ref-3)
4. Babies Born Better (BB) Improving childbirth experience, <http://www.babiesbornbetter.org/surveyportal/> (accessed June 24, 2018) [↑](#footnote-ref-4)
5. Istituto Superiore di Sanità (2001). Donati S, Andreozzi S, Grandolfo ME. Evaluation of the support and information activities offered to pregnant women: a national survey (in Italian). Rapporti ISTISAN 01/5.

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