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| **The mean absolute SHAP values and contribution weights of the 55 features in predicting POR and HOR** | | | | | | |
| **Ranking** | **Predicting POR** | | | **Predicting HOR** | | |
| **Variable** | **Mean absolute SHAP values** | **Weight (%)** | **Variable** | **Mean absolute SHAP values** | **Weight (%)** |
| 1 | AMH | 0.771320261 | 21.82 | AMH | 0.899371442 | 32.13 |
| 2 | AFC | 0.281739866 | 7.97 | AFC | 0.319809025 | 11.43 |
| 3 | POI or DOR | 0.2787601 | 7.88 | FSH | 0.275044255 | 9.83 |
| 4 | OS protocol | 0.269561091 | 7.62 | Using rFSH or uFSH | 0.177931065 | 6.36 |
| 5 | Basal FSH | 0.258634127 | 7.32 | OS Protocol | 0.150394119 | 5.37 |
| 6 | Using rFSH or uFSH | 0.257238684 | 7.28 | Age | 0.142213455 | 5.08 |
| 7 | Age | 0.165961967 | 4.69 | LH | 0.102745468 | 3.67 |
| 8 | FSH starting dose | 0.111026171 | 3.14 | POI or DOR | 0.087282906 | 3.12 |
| 9 | LH supplementation | 0.098152272 | 2.78 | FSH starting dose | 0.07299376 | 2.61 |
| 10 | Basal progesterone | 0.069110903 | 1.95 | PCOS | 0.060230823 | 2.15 |
| 11 | Weight | 0.068235211 | 1.93 | Platelet | 0.044961599 | 1.61 |
| 12 | Diastolic blood pressure | 0.06697381 | 1.89 | Weight | 0.039344208 | 1.41 |
| 13 | White blood cell count | 0.064847018 | 1.83 | Duration of infertility | 0.032752437 | 1.17 |
| 14 | Alanine aminotransferase | 0.059800385 | 1.69 | Serum total protein | 0.031234277 | 1.12 |
| 15 | Red blood cell count | 0.054672288 | 1.55 | Albumin | 0.024131724 | 0.86 |
| 16 | Duration of infertility | 0.050731462 | 1.43 | Hemoglobin | 0.023258841 | 0.83 |
| 17 | Basal LH | 0.045710484 | 1.29 | Diastolic blood pressure | 0.02076085 | 0.74 |
| 18 | Albumin | 0.03871626 | 1.1 | APTT | 0.018980347 | 0.68 |
| 19 | Platelet | 0.038689162 | 1.09 | Progesterone | 0.018972629 | 0.68 |
| 20 | Systolic blood pressure | 0.037953005 | 1.07 | Systolic blood pressure | 0.018857429 | 0.67 |
| 21 | Basal estradiol | 0.037700289 | 1.07 | Season of treatment time | 0.018351821 | 0.66 |
| 22 | Regularity of menstrual cycles | 0.036536175 | 1.03 | Basal estradiol | 0.017358247 | 0.62 |
| 23 | Prothrombin time | 0.033237064 | 0.94 | Regularity of menstrual cycles | 0.015601793 | 0.56 |
| 24 | Hematocrit | 0.028952832 | 0.82 | Risk factors for POR | 0.014868712 | 0.53 |
| 25 | APTT | 0.024906568 | 0.7 | Alanine aminotransferase | 0.014811158 | 0.53 |
| 26 | Paternal history | 0.024502789 | 0.69 | Serum creatinine | 0.014342582 | 0.51 |
| 27 | Serum creatinine | 0.022131261 | 0.63 | Frequency of menstrual cycles | 0.013535594 | 0.48 |
| 28 | Times of gravidity | 0.021589197 | 0.61 | White blood cell count | 0.0117476 | 0.42 |
| 29 | Serum total protein | 0.020878056 | 0.59 | Male factor for infertility | 0.011203193 | 0.4 |
| 30 | Hemoglobin | 0.019464442 | 0.55 | LH supplementation | 0.010962115 | 0.39 |
| 31 | Abnormal reproductive history | 0.01918911 | 0.54 | Aspartate aminotransferase | 0.01063021 | 0.38 |
| 32 | Aspartate aminotransferase | 0.019075651 | 0.54 | Education | 0.009798567 | 0.35 |
| 33 | Season of treatment time | 0.018803772 | 0.53 | Red blood cell count | 0.008399976 | 0.3 |
| 34 | ABO blood type | 0.014038175 | 0.4 | Abnormal reproductive history | 0.006868997 | 0.25 |
| 35 | Frequency of menstrual cycles | 0.011965093 | 0.34 | Hematocrit | 0.00665779 | 0.24 |
| 36 | Allergy history | 0.011315554 | 0.32 | Prothrombin time | 0.006456766 | 0.23 |
| 37 | Maternal history | 0.010180304 | 0.29 | ABO blood type | 0.006047966 | 0.22 |
| 38 | Risk factors for POR | 0.008703852 | 0.25 | Age at menarche | 0.005994717 | 0.21 |
| 39 | Male factor for infertility | 0.008145321 | 0.23 | Tubal factor for infertility | 0.005344621 | 0.19 |
| 40 | Pelvic inflammatory disease | 0.008019722 | 0.23 | Paternal history | 0.004374162 | 0.16 |
| 41 | Age at menarche | 0.00725663 | 0.21 | Maternal history | 0.004192314 | 0.15 |
| 42 | Primary/Secondary infertility | 0.007244493 | 0.2 | Dysmenorrhea | 0.003792221 | 0.14 |
| 43 | Education | 0.006666966 | 0.19 | Times of gravidity | 0.003492864 | 0.12 |
| 44 | Times of abortion | 0.00538332 | 0.15 | Parity | 0.003235949 | 0.12 |
| 45 | Endometriosis | 0.005163595 | 0.15 | Times of abortion | 0.00242304 | 0.09 |
| 46 | Unexplained factor for infertility | 0.003564488 | 0.1 | Primary/Secondary infertility | 0.001974934 | 0.07 |
| 47 | Dysmenorrhea | 0.003172363 | 0.09 | Genetic factor for infertility | 0.001608484 | 0.06 |
| 48 | Tubal factor for infertility | 0.003089319 | 0.09 | Endometriosis | 0.001305544 | 0.05 |
| 49 | Menstrual bleeding volume | 0.002973791 | 0.08 | Pelvic inflammatory disease | 0.001188913 | 0.04 |
| 50 | Parity | 0.002901384 | 0.08 | Allergy history | 0.001158844 | 0.04 |
| 51 | PCOS | 0.000844665 | 0.02 | Recurrent miscarriage | 0 | 0 |
| 52 | Genetic factor for infertility | 0.000210873 | 0.01 | Hypothyroidism | 0 | 0 |
| 53 | Recurrent miscarriage | 0 | 0 | Unexplained factor for infertility | 0 | 0 |
| 54 | Hypothyroidism | 0 | 0 | PCR detection of *Chlamydia trachomatis* | 0 | 0 |
| 55 | PCR detection of *Chlamydia trachomatis* | 0 | 0 | Menstrual bleeding volume | 0 | 0 |
| APTT, activated partial thromboplastin time | | | | | | |