A study to compare swim-up and two layer density gradients sperm preparation methods.

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ABSTRACT

Objective: To compare the harvesting power, quality of spermatozoa of the processed sample and cost of the swim-up and the two layer density gradients sperm preparation techniques.

Setting and design: Male partners of couples with unexplained infertility presenting to the infertility laboratory of the North Colombo Teaching Hospital for Intra Uterine Insemination (IUI) were recruited for the study. They were randomly allocated to either swim up method or two layer density gradients sperm preparation method. The harvesting power of each method, the percentage of progressive motile spermatozoa in the processed sample and the cost of each method were determined. Results were entered into SPSS computer programme and analyzed using the student's ttest.

Outcome measures: harvesting power, percentage of progressively motile sperms, cost for each method.

Results: A total of 56 males were recruited and there were 28 males in each arm. The harvesting power of swim up method expressed as mean percentage of sperm recovered from the raw sample was 48.8 (SEM 7.5) compared to 31.1 (SEM 4.1) with density gradients method ($p<0.05$). There was no statistically significant difference in the mean percentage of progressively motile spermatozoa in the processed samples between the two methods ("a'"+"b" grade motility with swim up 97.5 % (SEM 1.8) and 97.8% (SEM 1.2) with density gradients method). Average cost per sample was RS. 1100 for swim up technique compared to Rs. 2090 for the density gradients method.

Conclusion: Though the percentage of progressively motile spermatozoa in the processed sample is comparable in the two methods the harvesting power and the cost per procedure are superior in the swim-up method. Thus its use in semen preparation in couples with unexplained infertility is justifiable.