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Patient Preferences for Labor Pain Relief using a Discrete Choice Experiment

Women experience excruciating pain during childbirth. Current labor pain relief practice provides parturients with choices of epidural, pethidine, and entonox. While epidural is the gold standard for labor pain relief, its utilization in Singapore has not reached the levels in other developed countries, possibly due to epidural perceptions among Singaporean women. Parturients' evaluations of epidural side effects and their impact on labor pain relief remain to be explored. The primary objective was to investigate to what extent pain relief, second-stage labor duration, risks for instrumental delivery, neurological injury, and backache, and out-of-pocket cost are important in parturients' medication selection for labor pain relief. The secondary objective was to investigate whether perceptions of epidural affected parturients' epidural uptake. A Discrete Choice Experiment (DCE) survey was developed and administered to 250 parturients with singleton fetus at KK Women's and Children's Hospital to calculate predicted uptake (i.e. probability of choosing) of epidural. The DCE tasks were divided into six blocks of nine tasks, and each parturient was randomized to receive one of the blocks. Conditional logistic regressions were used to analyze the DCE data. Cost (27%) had the greatest impact on pain relief selection followed by second-stage labor duration (24%), pain level (20%), risk of instrumental delivery (11%), risk of back pain (10%), and risk of nerve damage (8%). Predicted uptake of epidural was higher for lower pain levels, shorter second-stage labor duration, lower risks of instrumental delivery and backache, and lower cost. Epidural uptake was higher for parturients with positive perceptions of epidural than those with neutral or negative perceptions of epidural. The results of this study promote a patient-centered approach that encourages free conversations between clinicians and parturients. With knowledge of parturients' concerns, clinicians can optimize pain relief regimens for better parturient and fetal outcomes, whilst addressing parturients' needs and values.