It was designed to assess knowledge (i.e., rates, trends, and leading causes of maternal mortality) and teaching skills (i.e., when teaching occurs, length of time, and how competent nurses feel about teaching this content). The survey was revised several times by the research team members for flow and accuracy after it was reviewed by content experts for face validity. Reliability of the survey was not measured.

An electronic membership list (email) was obtained from AWHONN. Members who had identified themselves through AWHONN as postpartum or mother/baby nurses were invited via email to participate in this study in May of 2016. The email included a link to the electronic survey. The original email was sent to 3,759 nurses. Approximately 1,128 (30%) of the nurses who were sent the email opened the email and 416 (37%) started the survey. Of the 416 nurses who started the survey, 372 (89%) completed the entire survey. Each potential participant received three emails (the original and then two reminders 1 week apart). Internet protocol addresses were not tracked or used in analysis of these data. Data were analyzed with JMP 12 (SAS Institute, Cary, N.C.). Only completed surveys were included in the analysis. Descriptive statistics were generated to describe sample demographics. Bivariate analyses using chi square and t tests were used to examine possible associations between demographic variables, knowledge of maternal morbidity and mortality, and teaching.

Results

Demographics

Sixty-eight percent (n = 253) of the nurses were over age 40. Fifty percent (n = 187) were baccalaureate-prepared nurses and 34% (n = 126) held a graduate degree. Sixty-four percent (n = 239) held various certifications and 62% (n = 232) had greater than 10 years of experience as a postpartum nurse (Table 1). Participants were employed in 49 of the 50 states (except Utah) and the District of Columbia. Sixty-six percent (n = 244) were employed at hospitals with less than 3,000 births per year. Thirty-six percent (n = 135) reported they worked in a facility with a cesarean birth rate greater than 30%; an additional 21% (n = 79) were not sure of the cesarean rate at their facility.

Knowledge

When nurses were asked about the trends in maternal mortality, 46% (n = 169) were not aware that maternal mortality rates have increased; 27% (n = 100) reported maternal mortality has stayed the same; 19% (n = 69) reported that it has decreased; and 54% (n = 203) reported maternal mortality has increased. There were significant differences in the distribution of responses due to age (p = 0.017) with older nurses (ages 41 and above) more likely to report that rates have increased compared with nurses who were 40 years of age or younger and those with more than 10 years of postpartum experience more likely to report an increase in rates compared with nurses with less experience (p = 0.014). There were no

Table 1. Sample Demographics

Variable	n	%
Age		
20–30	46	12
31–40	73	20
41–50	71	19
51–60	137	37
>60	45	12
Education		
Associate degree	42	11
Baccalaureate degree	187	50
Diploma	15	4
Doctor of nursing practice	4	1
Master's degree	116	31
PhD	3	.8
Other	5	1
Certification		
Yes	239	64
No	133	36
Years of postpartum practice		
<1 yr	15	4
1–2 yrs	32	8
3–5 yrs	45	12
6–10 yrs	48	13
11–20 yrs	94	25
>20 yrs	138	37

significant differences in the distribution of responses due to education type or specialty certification. Fifteen percent (n = 56) of the nurses were aware of the most current specific rates of maternal deaths in the United States (16 per 100,000 births reported by the CDC at the time of this study); 56% (n = 209) reported a lower number of deaths and 28% (n = 105) reported a higher number. Only 12% (n = 45) correctly identified that 61% of deaths occur during postpartum. When identifying the three leading causes of maternal death in the United States, nurses reported hemorrhage (93.3%, n = 347), hypertension (68.5%, n = 255), and infection (39%, n = 145) as the top three answers. There were no significant associations between age, education, experience, or certification and choosing the correct response about the most common causes of maternal deaths and timing of maternal deaths. When nurses were asked about how they stay current with evidence-based practice in maternal and infant health topics, 80% reported that they read