

Establishing a human-foal bond: resultant behaviour modification, stress reduction and improved welfare of horses

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Introduction

Many horse and handler accidents occur because of the natural response of the horse to threats (Spier et al., 2004). Following post-partum examination (Simpson, 2002; Spier et al., 2004), human contact with foals is often limited to subsequent vaccinations and deworming, which may be months apart. Temperament is an important aspect of the adult horse often overlooked in breeding (Lansade et al., 2004) and although previous studies suggest that neonatal handling has no effect on temperament and reactivity of foals in later life (e.g., Williams et al., 2003), more recent work has attempted to show that early experience with humans significantly influences temperament and emotional reactivity, resultant manageability and thus welfare of domestic horses (Lansade et al., in press; McGee and Smith, 2004).

Discussion

While investigating neonatal handling of 26 Welsh foals, Lansade et al. (in press) handled half the foals daily from six hours post-partum to 14 days (the control group was handled minimally). Spier et al. (2004) examined 40 Thoroughbred foals, half of which were handled at birth and 24 hours later, while Henry et al. (in press) studied the responses of 41 mare-foal dyads of mixed breeds (French Saddlebreds, Trotters, Anglo-arabs and Arabs), 21 of which were handled and 20 of which acted as controls. Lansade et al. (in press) initially fitted foals with a halter and patted their entire bodies for two minutes. Each foal's fore- and hind-legs were picked up and a plastic bag shaken in front of the head. Subsequently the foal was pressured to walk 40 metres from its pen and therefore its dam. These exercises were repeated until the foal no longer resisted or manifested a defensive response. A similar method was followed by Spier et al. (2004), who rubbed the neonate all over with a towel 30 to 50 times until it appeared relaxed, followed by a complete rub-down with a plastic bag (repeated 24 hours later). Within the first hour of birth, experimental foals in the study by Henry et al. (in press) were rubbed down with bare hands, forced to stand and led to suckle. Control foals had very little human contact. Dams of experimental foals were brushed daily followed by hand feeding during the first five days post-partum. Behaviour was recorded during all sessions but critical testing occurred later.

Both experimental and control groups of Welsh foals (Lansade et al., in press) underwent handling (capture, picking up feet and leading), surprise (known and unknown stimuli) and open field tests (isolation, human presence and presence of a novel object), over two days at 16 days, three, six and 12 months of age. Thoroughbred foals (Spier et al., 2004) were tested at three months of age with restraint and haltering, complete physical exam, a plastic rebreathing bag over the nostrils, picking up and tapping all four feet, first intramuscular and intra-nasal vaccinations and oral dewormer. The foals in the study by Henry et al. (in press) underwent tests at two and four weeks with a human standing in their box (foal behaviour recorded), an approach test at two weeks (behaviour and flight distance recorded), a tolerance test at 30-35 days placing a saddle pad on the foal (acceptance recorded) and an approach-stroking test at 11-15 months. All tests examined the foals' behaviour in response to previous experience with humans.

Short-term manageability of foals handled neonatally was improved significantly but effects decreased from three to 12 months of age (Lansade et al., in press), suggesting that there were no long-term effects of handling on fearfulness or manageability. Spier et al. (2004) discovered that there were no significant behavioural differences between experimental foals and controls during the physical examination at three months of age, although experimental foals were calmer and relaxed more rapidly following a stressful experience (e.g., venipuncture). The relationship between humans and dams plays an important role in the

reactivity of their foals (Henry et al., in press) although again, effects of handling dams and foals did not last beyond 12 months post-partum.

There were some significant limitations in the methods of the studies by Henry et al. (in press), Lansade et al. (2004) and Spier et al. (2004). When analysing behaviour patterns and temperament, breed must be taken into account (Lansade et al., 2004). That said, these studies used different breeds of horses and Henry et al. (in press) used control foals of different breeds from experimental animals. Despite the fact that the studies by Henry et al. (in press) and Lansade et al. (in press) comprised tests that were conducted beyond the weaning period, the impact of weaning, a highly stressful time for foals (McGee and Smith, 2004; Rogers et al., 2004) was not discussed.

Dam temperament was correlated positively with foal behaviour during the testing process with calm foals associated with calm dams (Henry et al., in press). However, the study by Spier et al. (2004), in contrast, found no correlation, but in this study the presence of the dam was considered only as a potentially confounding factor for foal behaviour. The dams were present in the study by Lansade et al. (in press) but their influence was not taken into account at any stage.

Conclusion

Neonatal handling is a process designed to improve the foal-human relationship and thus increase manageability of foals while decreasing reactivity, fearfulness and ultimately stress during development and subsequent interactions with humans (Lansade et al., in press). Recent studies suggest that benefits of neonatal handling last up to 12 months (Henry et al., in press; Lansade et al., in press; Spier et al., 2004).

In the first 12 months of life, a foal is constantly faced with new stimuli. The innate response of the foal to many of these stimuli is fearful, with high levels of reactivity. These three studies have shown that neonatal handling of foals enables them to become accustomed to human presence and increase manageability and decrease stress levels as a result, at least for the first 12 months, following which, frequent handling and association with humans should serve to maintain the relationship and overall improve the welfare of the horse.

References

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