MEDICAL SCIENCE

A quasi-experimental study to assess the effectiveness of birth companion-based care during first stage of labour, on labour outcome and emotional status among parturient women in selected hospital of Gurugram, Haryana

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ABSTRACT

Background: Birth companionship is an effective strategy for improving the standard of care offered during labour and delivery. Despite the numerous advantages of labour companionship, it is not widely practiced. Having a labour companion also reduced anxiety about childbirth and mistreatment, such as unnecessary vaginal examinations and poor communication, when compared to not having a labour companion. *Methods:* In the present study quantitative approach with a post-test-only control group design was adopted. 60 parturient women were enrolled using a Purposive sampling technique. A 3-point Likert scale was used to assess the emotional status of women. The Mode of Delivery, Duration of the First Stage of Labour and APGAR score were used to evaluate labour outcomes. Partograph was used to assess labor outcomes. *Result:* The result showed significant improvement in emotional status between Control and experiment group. T test was used to compare the emotional status between experimental and control group which was found to be highly significant as $p < 0.05$. The chi square test was used to evaluate the mode of delivery between the two groups and the difference was found to be significant with a p-value of < 0.05. The duration of the first stage of labour and the APGAR score were compared using an independent t test between two groups, which was found to be significant as $p < 0.05$. *Conclusion:* Implementation of the birth companion-based care module has significantly improved emotional status and labor outcomes.

Keywords: Birth companion, Birth companion-based care, Parturient women,

Labour outcome, Emotional status

1. INTRODUCTION

Labour companionship is an important aspect of delivering respectful maternity care and it is now listed as one of the WHO guidelines for enhancing the quality of maternal and newborn care in health institutions. Having a selected partner throughout labour and delivery, even during COVID-19, is strongly recommended by WHO. This study is extremely beneficial to women in terms of reducing the number of caesarean births. Birth companionship refers to assistance from a spouse, family member, friend or health care professional during the birthing process. Birth companionship is a beneficial strategy that can help improve the quality of care provided during labour and delivery. Despite the many benefits of labour companionship, implementation of this practice is not universal (Kabakian-Khasholian and Portela, 2017).

The presence of birth attendant is advised by the International Health Organization for improve birth findings and women's clinical outcomes. Additionally, it has been determined to be an important component of providing high-quality care to pregnant women and babies (Perkins et al., 2019). According to the National Guidelines, healthcare practitioners should guide women to keep their childbirth companions by their sides with the first and 2nd phases of labour and institutions must provide space for them. Evidence suggests that Continuous assistance throughout labour was proven to reduce the prevalence of postpartum depression, women may be more pleased, experience shorter labours, increase positive feeling about birth experience, which may result in a role in limiting of using painkillers or having a caesarian section (Bohren et al., 2017).

A professional midwife's job is to take care of a mother during labour and delivery while avoiding difficulties. Nurses spend only 6–10 percent of their time on labor-support duties, according to several studies. Nurses are overworked and overwhelmed due to staffing deficit, responding to labouring moms for a variety of clinical and administrative chores in addition to direct labour care. Women who have constant support during their labour are typically happier with their labour and delivery experiences, as well as the health care services, they get. In order to enhance health outcomes and provide women with respectful maternity care, it is necessary to support them in having the labour companion of their choice (Bohren and Chapman, 2019).

Evidence also showed that presence of a birth companion decreased anxiety about childbirth and mistreatment, such as stigma, unnecessary vaginal examinations and poor communication as compared to not having a labour companion. The presence of a chosen birth support companion also resulted in an increase in labouring women's self-efficacy. In conclusion, a negative birth experience is frequently caused by the lack of a labour partner (Asratie et al., 2021). The function of the birth companion includes all non-clinical elements of care. They offer one-on-one treatment to women who have several needs and objectives for birthing. Multiple randomized controlled trials have demonstrated the importance of a comforting companion in shortening labour, resulting in fewer instrumental births and improving APGAR scores.

To supplement the verbal information given to childbirth companion brochure with significant details regarding the function and duties of a birthing partner should be made and transcribed into the languages and distributed to expectant mothers as well as birth companions during prenatal care check-ups. Which were often use by the people (Munkhondya et al., 2020). Birth companion plays an important role in encouraging the woman to drink water throughout labour, encourage her to get up and walk about during labour, rubbing the mother's back or massaging her shoulders helps ease her discomfort and provide emotional support, physical comfort and information to parturient women.

2. MATERIAL AND METHODS

Objective

The purpose of this study was to determine the effectiveness of birth companion-based care during the first stage of labour-on-labour outcome and emotional status among parturient women in Gurugram, Haryana.

Study Design

The study used a posttest-only Control group design.

Setting

The study was conducted in labour room of SGT Hospital and Kalawati Hospital, Gurugram, Haryana, India.

Sample and Sampling Techniques

Total 60 parturient women enrolled in study using purposive sampling technique (30 in experimental group and 30 in control group).

Inclusion and Exclusion Criteria

Women with age 18 to 34 years and who were willing to take part in the study and who were in first stage of labour were included. Women with elective caesarean section and any medical and obstetric complications were excluded from the study.

Tools for data collection

Structured questionnaire was used to collect demographic data and obstetrics data. Partograph was used to collect detailed information about labour outcome. A likert scale was used to collect the information about the emotional status of the parturient women. Tools were developed after extensive review of literature and were validated by experts in field of Obstetrics and Gynecological Nursing.

Data Collection

Ethical permission for the study was taken from institutional ethical committee of SGT University (letter No: FON/SGTU/22/1333) and from concerned authorities of SGT Hospital and Kalawati Hospital Gurugram, Haryana. Data was collected during month of March and April 2022. After receiving permission from the medical superintendent of both hospitals, the researcher approached each expectant mother. Participants were enrolled through purposive sampling then consent was taken from the participants. They were divided into two groups; SGT Hospital was taken as an experimental group and Kalawati Hospital was taken as control group. Then experimental group was given birth companion-based care while control group was given only routine care. Post-test was taken immediately after the delivery and partograph was filled during the labour and mothers' attitude was checked after the delivery.

Data Analysis

Subject's responses and Likert scale data were coded and entered into SPSS 20. Descriptive statistics was used to summarize demographic variables, obstetrics parameter in experimental and control group. In inferential statistics, Chi square test was used for item analysis of emotional status between both groups. Independent t test was used to compare the emotional status and labour outcome between both groups.

3. RESULTS

Most of the subjects 50% belong to the experimental group, while 30% of the subjects in the control groups were between the ages of 20 and 25. The least number of subjects 6.6% belong to the experimental group, while 16.6%—were in the control groups. According to Husband's educational status, 50% of subjects in the experimental group and 46.6% of subjects in the control group had graduated, whereas 13.4% of individuals in the experimental group and 16.6% of subjects in the control group had only completed primary school. In considerations of profession, 80 percent of pregnant women in both experimental and control group were housewives. The majority of respondents (53.4%) in the experimental group had a monthly income of more than 15001 rupees, compared to 70% in the control group and the least number of subjects (10%) in the experimental group and control group had a monthly income ranging from 5000 to 10,000 rupees. Regarding place of residence, the majority of individuals (53.3%) in the experimental group and 70% in the control group dwell in urban regions. 80% of the experimental group and 66.6% belonged to the joint family (Figure 1).

Most of the subjects (76.6%) in the experimental group were multigravida, compared to 30% in the control group. When parity of the parturient was considered, 86.6 percent of participants in the experimental group and 76.6 percent of individuals in the control group had parity between 1-2.

The majority of the 53.4 women in the experimental group had gestational ages between 37 and 38 weeks, whereas 63.4 percent of the women were in the control group. 50 percent of those in the control group and 56.6% of those in the experimental group had ever had an abortion. 93.4 percent of participants in the experimental group and 83.4 percent of subjects in the control group had no history of death (Figure 2).

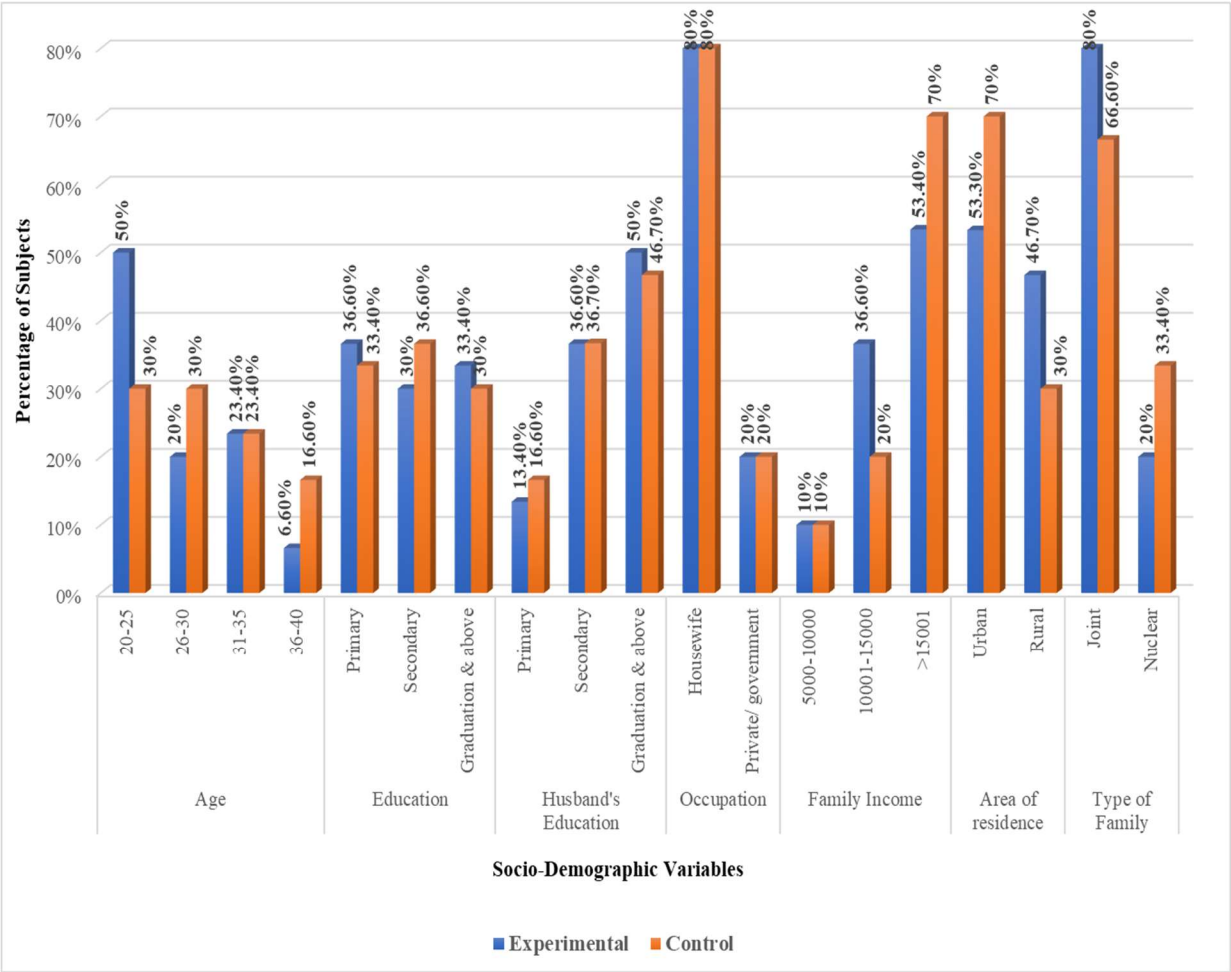

Figure 1 Frequency distribution of subjects in experimental and control group according to socio demographic variable among Parturient women (n=60)

Chi square was used for Item analysis of emotional status between both the group and a significant difference was seen in statements of confidence, neglected, happy, confusion, encouraged, angry as the p value is <0.05 and no statistically significant difference was seen in statement of worried, relaxed, tired, being cared, sad, concerned about safety of baby, frustrated, feeling secured, anxious (Table 1).

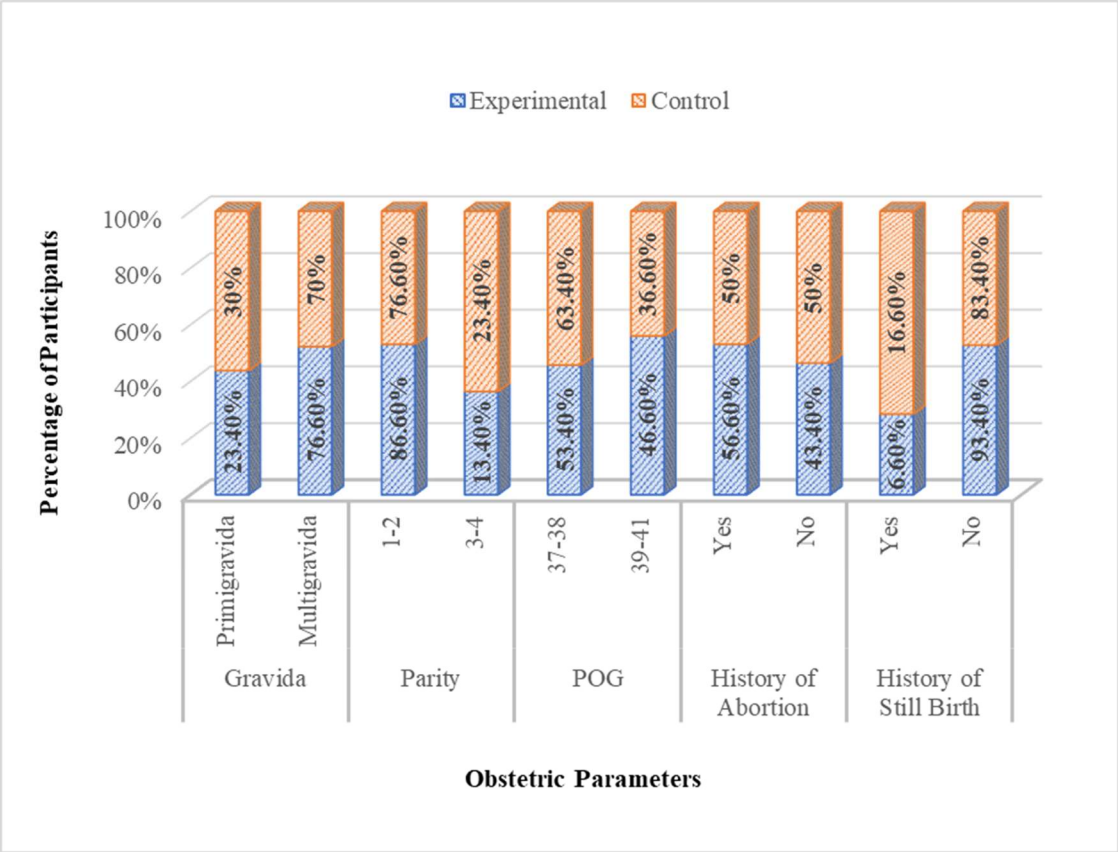

Figure 2 Frequency distribution of subjects in experimental and control group according to selected obstetrics parameters among Parturient women (n=60)

Table 1 Item analysis of emotional status between experimental and control group (N=60)

Sr. No.	Statements	Experimental Group Frequency (Percentage)	Control group Frequency (Percentage)	Chi value df p-value
1	I was worried			
1.1	Agree	8(26.6%)	22(73.3%)	5.01
1.2	Uncertain	5(16.7%)	7(23.4%)	4
1.3	Disagree	17(56.7%)	1(3.3%))	0.28^{NS}
2	I was Relaxed			
2.1	Agree	18(60%)	1(3.3%)	1.35
2.2	Uncertain	4(13.4%)	19(63.4%)	4
2.3	Disagree	8(26.6%)	10(33.3%)	0.85^{NS}
3	I felt Tired			
3.1	Agree	14(46.6%)	24(80%)	2.7
3.2	Uncertain	7(23.4%)	5(16.6%)	4
3.3	Disagree	9(30%)	1(3.4%)	0.60 ^{NS}
4	I was Confident			
4.1	Agree	23(76.6%)	15(50%)	11.48
4.2	Uncertain	2(6.7)	3(10%)	4
4.3	Disagree	5(16.7%)	12(40%)	0.02*
5	I was Neglected			
5.1	Agree	1(3.3%)	7(23.4%)	10.7

5.2	Uncertain	1(3.3%)	6(20%)	4
5.3	Disagree	28(93.4%)	17(56.6%)	0.03*
6	I was being Cared			
6.1	Agree	28(93.4%)	7(23.4%)	2.1
6.2	Uncertain	1(3.3%)	15(50%)	4
6.3	Disagree	1(3.3%)	8(26.6%)	0.71^{NS}
7	I was Sad			
7.1	Agree	1(3.3%)	23(76.7%)	1.13
7.2	Uncertain	7(23.3%)	5(16.7%)	4
7.3	Disagree	22(73.4%)	2(6.6%)	0.88^{NS}
8	I was Happy			
8.1	Agree	6(20%)	5(16.6%)	9.95
8.2	Uncertain	18(60%)	15(50%)	4
8.3	Disagree	6(20%)	10(33.4%)	0.04*
9	I was Confused			
9.1	Agree	11(36.7%)	12(40%)	11.3
9.2	Uncertain	11(36.7%)	7(23.4%)	4
9.3	Disagree	8(26.6%)	11(36.6%)	0.02*
10	I was Encouraged			
10.1	Agree	28(93.4%)	3(10%)	9.5
10.2	Uncertain	1(3.3%)	24(80%)	4
10.3	Disagree	1(3.3%)	3(10%)	0.05*
11	I was Angry			
11.1	Agree	2(6.6%)	15(50%)	9.5
11.2	Uncertain	6(20%)	3(10%)	4
11.3	Disagree	22(73.4%)	12(40%)	0.05*
12	I was Concerned about safety of baby			
12.1	Agree	5(16.6%)	15(50%)	1.51
12.2	Uncertain	11(36.7%)	14(46.6%)	4
12.3	Disagree	14(46.7%)	1(3.4%)	0.82^{NS}
13	I felt Frustrated during labour			
13.1	Agree	3(10%)	20(66.7%)	4.8
13.2	Uncertain	8(26.6%)	8(26.7%)	4
13.3	Disagree	19(63.4%)	2(6.6%)	0.3^{NS}
14	I was Excited			
14.1	Agree	27(90%)	3(10%)	4.3
14.2	Uncertain	2(6.7%)	14(46.7%)	4
14.3	Disagree	1(3.3%)	13(43.3%)	0.3^{NS}
15	I was feeling Secured or safe			
15.1	Agree	24(80%)	9(30%)	3.4
15.2	Uncertain	4(13.4%)	12(40%)	4
15.3	Disagree	2(6.6%)	9(30%)	0.4^{NS}
16	I was Anxious			
16.1	Agree	1(3.3%)	17(56.7%)	1.3
16.2	Uncertain	8(26.7%)	12(40%)	4
16.3	Disagree	21(70%)	1(3.3%)	0.8^{NS}

*Significance at the level of 0.05

NS- No Significant at the level of 0.05

Table 2 Comparison of mean score of emotional status between experimental and control group

Variable	Experimental Group Mean ± SD	Control group Mean ± SD	Independent Sample 't' value df p- value
Emotional status	40.47 ± 4.06	27.70 ± 3.71	12.69 58 0.00001**

*Significance at the level of 0.05
NS- No Significant at the level of 0.05

Independent t test was used to compare the total score of emotional status between two groups which was found to be highly significant as p <0.05 (Table 2).

Table 3 Comparison of labour outcome (onset of labour, mode of delivery) between experimental and control group (n=60)

Labour outcome variables	Experimental Group Frequency (Percentage)	Control Group Frequency (Percentage)	Chi value df p-value
Onset of Labour			
Induction	16 (53.3%)	14 (46.7%)	5.6
Augmentation	6 (20%)	9 (30%)	4
No Induction/Augmentation	8 (26.7%)	7 (23.3%)	0.2^{NS}
Mode of delivery			
Normal	15 (50%)	15 (50%)	11.5
Instrumental	9 (30%)	8 (26.7%)	4
Caesarean section	6 (20%)	7 (23.3%)	0.02*

*Significance at the level of 0.05
NS- No Significant at the level of 0.05

The comparison of labour outcomes between both groups of parturient women is shown (Table 3). In the experimental group, 20% of deliveries were caesareans, compared to 23.3% in the control group. The chi square test was performed to evaluate the variation in labour outcome variables between the two groups and was found to be significant with a p-value of < 0.05.

Table 4 Comparison of Labour outcome (Duration of first stage of labour, APGAR score of newborns) between experimental and control group (N=60)

Labour Outcome	Experimental Group Mean ± SD	Control group Mean ±SD	Independent Sample 't' value df p- value
Duration of First stage of labour	6.41 ± 2.99	7.02 ± 3.26	-.75 58 0.45^{NS}
Total APGAR Score at 1 min	7.9 ± 0.40	7.3 ± 0.79	3.69 58 0.0*
Total APGAR Score at 5 minutes	8.9 ± 0.40	8.3 ± 0.79	3.69 58 0.0*
Total APGAR Score at 10 minutes	9.03 ± 0.32	8.5 ± 0.56	3.91 58 0.0*

*Significance at the level of 0.05
NS- No Significant at the level of 0.05

The results for the duration of first stage of labour, APGAR score of new-borns between groups are shown (Table 4). In the experimental group's mean duration of first stage was 5.9 ± 2.19 as compare to 7.03 ± 3.2 in control group. Independent t test was used to assess the difference in duration of first stage of labour, APGAR score in between both groups which was found to be significant as $p < 0.05$.

4. DISCUSSION

In present study conducted at SGT hospital and Kalawati Hospital Gurugram, Haryana among 60 subjects, it was observed that investigator aimed to evaluate the effectiveness of birth companion-based care on labour outcome and emotional status among parturient women in a selected hospital in Gurugram, Haryana. The participants present in experimental group had received birth companion-based care while control group received only routine care. With using of independent t test, total mean and SD in duration of first stage of labour in experimental group was 6.41±2.99 and 7.02±3.26 in control group. Total mean and SD in APGAR score at birth was 7.9 ± 0.40 and 7.3 ± 0.79 in control group. Total mean and SD in APGAR score at 5 minutes were 8.9 ± 0.40 and 8.3 ± 0.79 in control group. Total mean and SD in APGAR score at 10 minutes were 9.03 ± 0.32 and 8.5 ± 0.56 in control group so, from the above values it was clear that there were difference in between experimental and control group values so birth companion-based care was effective for the parturient women. The finding was similar with the findings of an experimental study done by Thomson and Balaam, (2016) to assess experience and delivery outcomes of vulnerable women who had birth companions to explore the experiences and satisfaction with perinatal support received by vulnerable women who received or did not receive additional support in Whittington Hospital. As per the study results 8.9% of participants were vulnerable, with 7.6% receiving assistance from their birth partner (1.6%), VABM team (4.4 or both (1.6 %). Further comparisons shows that women who received support from Birth Companions were less likely to be induced and use anesthesia during labour.

Chi square test was used to find out the significant difference between two groups. The chi square value for the statement of confidence was 11.4 with a p-value of 0.02. In the statement of neglect, chi-square value was 10.7 with a p-value of 0.03. In the statement of happiness, the chi square value was 9.9 with p-value 0.04. The chi square value in the statement of angry was 9.5 with a p-value of 0.05 where all were found significant. Hence it proved that birth companion-based care was effective for the emotional status of parturient women.

The information presented above was similar with the findings of an experimental study done by Rajitha, performed a study to analyse the anxiety of birth companions during labour. A non-probability purposive sampling strategy was used to obtain a sample size of 30 parturient women. Researchers adopted a quantitative technique and a descriptive research methodology in this study. The data was gathered through an interview schedule. 60.1 % reported moderate anxiety, 26.7 % had mild anxiety and 13.3 % had severe anxiety, according to the study results. During labour, the average score of support provided by the birth companion was 14.3, with r = 0.006 and p0.05 = 1.0, so according to the above finding it was clear that if a birth companion present with the parturient woman, then the emotional status of participants was favourable.

5. CONCLUSION

Based on the findings, Birth companion-based care was effective in improving labor outcome and emotional status among parturient women. Birth companion-based care should be incorporated into strategies to improve the quality of care during labour and childbirth.

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We thank all the participants who were all contributed samples to the study.

Author's contribution

All authors contributed equally to the study design, data collection and analysis, data interpretation, manuscript drafting and critical revision.

Ethical Approval

The study was approved by the institutional ethical committee of SGT University (Letter No. FON/SGTU/22/1333).

Informed Consent

Informed Consent was obtained from the patient.

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Conflict of interest
The authors declare that there is no conflict of interests.

Data and materials availability
All data sets collected during this study are available upon reasonable request from the corresponding author.

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