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Indigenous Traditional Knowledge Used for Reproductive Disorders and Constraints Faced by Small Dairy Farmers

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ABSTRACT

The present study was conducted by the Department of Veterinary & A.H. Extension Education, ANDUAT Kumar Ganj, Ayodhya on reproductive disorders information was generated from 120 dairy farmers; Majority (87.50%) of farmers in case of prolapsed and other Indigenous Traditional Knowledge (ITK) used are as follows: correct mild prolapsed by themselves using lather shoe, desi ghee and pumpkin, warming of rear part of animal, reduce feeding specially concentrate. Lack of grazing fields (100) was ranked first constraint in the research area faced by small dairy Farmers Abortion, Dystocia and stillbirth were mostly treated by veterinary doctors and remaining reproductive disorders were treated by dairy farmers through by using grains, herbs and other medicinal plant on the basis of ITK.

Keywords: Constraints, Management practices, Reproductive disorder, Small dairy farmers.

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INTRODUCTION:

Reproductive problems (Butani *et al.,* 2008; Ashoo *et al.,* 2020) are the main causes of poor productive performance in small holder dairy farms (Roberts, 1986; Azawi *et al.,* 2008; Noakes *et al.,* 2019). Among the major reproductive problems that have a direct impact on reproductive performance of dairy animals are Abortion (Birthal and Jha, 2005), Dystocia (Kumar *et al.,* 2017, Kumar *et al.,* 2019; Singh *et al.,* 2024; Verma *et al.,* 2024), Uterine torsion (Kumar *et al.,* 2014; Kumar *et al.,* 2025[a]), birth canal injuries (Kumar *et al.,* 2025[b]), Retained fetal membrane (Ghuman and Singh, 2009), Pyometra, Metritis, uterine or vaginal Prolapse, (Kumar 2020b; Verma *et al.,* 2022; Dutt *et al.,* 2023), Repeat breeder (Kumar *et al.,* 2009a; Kumar *et al.,* 2010), Anoestrus (Kumar *et al.,* 2009b; Kumar *et al.,* 2020a), subestrus (Kumar *et al.,* 2011) have been reported to be the most common reproductive problems (Butani *et al.,* 2008; Hadush 2013; Dinka, 2012; Haile *et al.,*2014). The reproductive problems could also be classified as before gestation (anoestrus and repeat breeder), during gestation (abortion, vaginal prolapsed and dystocia) and

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after gestation (retained fetal membrane and uterine prolapsed). The impaired function of the reproductive system results failure of a cow to produce a calf yearly and regularly (Shiferaw *et al.,* 2005; Taktaz *et al.,* 2015; Noakes *et al.,* 2019). Many production constraints, mainly reproductive health problems, from a bottle neck in the production process and productivity in the livestock sub-sector. Beside this large numbers of dairy animals (cattle and buffalo) are culled and reach to abattoir primarily due to infertility associated with nutritional (Kumar *et al.,* 2020[c]; Kumar *et al.,* 2025[c]), Hormonal (Singh *et al.,* 2021), managemental (Kumar *et al.,* 2021) and infectious (Husain *et al.,* 2020; Husain *et al.,* 2021) origin and results more economic losses of dairy farmers. The study was conducted with objectives: a) to analyze the existing practices to manage the reproductive disorders by the dairy farmers; b) to identify the constraints faced by dairy farmers in management of reproductive disorders.

MATERIALS AND METHODS

Research was conducted in Bara Banki district of Uttar Pradesh. The selected Bara Banki district having 6 Blocks, out of which 3 Blocks were selected randomly. From each selected Block, 2 villages were selected by applying simple random sampling technique. In social science research selection of respondents is a crucial task, hence due care was taken while selecting the respondents. The present information was generated from 120 dairy farmers, 20 from each selected village, who had at least one lactating cow or buffalo at the time of investigation. The primary data was collected by personal interview method using a structured interview schedule. The collected data were tabulated, scored and analysed in the light of the objective.

RESULTS AND DISCUSION

Management of the reproductive disorders by the dairy farmers

An attempt was made to documented traditional knowledge and ethnos veterinary practices followed by livestock farmer and their rationale behind each practice. It was tried to identify the traditional practices approaches for some reproductive problems with their diagnosis and management are outlined here. It was observed that treatment was being done with the help of locally available species, herbs, shrubs, minerals and other material medica etc, in the form of mixture, powder, poultice, ointment, fumes, decoction etc. Livestock owners reported that they rarely consult the veterinary doctor, if their animals get sick. Animal suffering from reproductive problems were treated by them at home by use of own ITK at field condition. An attempt, therefore, was made, to assess the existing practices to manage the various reproductive disorders of dairy animals. Information was collected using open ended interview schedule developed for this purpose. It was observed during the investigation that combinations of various grains and herbs were commonly used by the dairy farmers to overcome the reproductive disorders of dairy animals in the locale.

Table 1: Management of the reproductive disorders by the dairy farmers (N=120)

Reproductive Disorders	ITK used to manage the disorder	F	%
Repeat Breeding	1 lit. of cow milk/day to buffalo in case of buffalo during oestrus and vice-versa	96	80.00
	200 g Gular (*Ficus glomerate)* as single dose	75	62.50
	250 g. Gokharu (*Tribulus terrestris*) seed as single dose	69	57.50
	1lit. milk and 250 g mustard oil (*Brassica* spp.) before service, 1kg boiled methi (*Trigonella foenum-graecum*) grain next day of service and then feed only dry fodder for 10 days	58	48.33
Late Maturity and Anestrus	Desi ghee @ ½ kg/day for 3-4 days	103	85.83
	Call veterinary officer/ livestock assistant	91	75.83
	5 kg Til cake and 1½ kg red lentil (*Lens culinaris*) divided in three halves and fed to animal for 3 days	82	68.33
	Green guar (*Cyamopsis tetragon Loba*) covered air tight under pressure overnight and fed to animal in morning	78	65.00
	1 kg/day curd and ½ kg/day boiled meth (*Trigonella frenum-graecum*) grain	67	55.83
	100 g carrot seed (*Daucus carota*) mixed with 250 g 'Khand' (desi sugar)	63	52.50

RFM	Naval of animal is smear with oil/ghee and warm for few minute	95	79.17
	Gur in luke warm water	81	67.50
	300-400 g. bamboo leaf	78	65.50
	2-3 kg rice grain	73	60.83
	½ kg Methi (*Trigonella foenum-graecum*) grain and ½ kg jiggery	64	53.33
Prolapse	Avoid long resting	105	87.50
	Correct mild prolapses by themselves using lather shoe	95	79.17
	250 g/day desi ghee + 2-3 kg/day pumpkin (*Cucurbita pepo*) fruit/ 'lake (*Lagenaria siceraria*) for 4-5 days	85	70.83
	Warming of rear part of animal	64	53.33
	Reduce feeding specially concentrate	58	48.33
Abortion and Stillbirth	Drenching desi ghee @ ½ lit. /day for 3-4 days	92	76.67
	Call veterinary officer/ livestock assistant	84	70.00
Dystocia	Call veterinary officer/ livestock assistant /quack	88	73.33
	Force to move on uneven ground	65	54.16

Various indigenous traditional knowledge (ITK) used by dairy farmers to treat different reproductive disorders in cattle and buffaloes are depicted in Table 1.

To manage repeat breeding condition in dairy animals the major ITK used by majority of farmers (n=96; 80%) are drenching of cow milk in case of RB buffalo, while buffalo milk in case of RB cow. The others ITK use to manage repeat breeding are gular single dose (n=75; 62.5%), Gokharu as a single dose (n=69; 57.5%), milk, mustard oil and boiled meth (n=58; 48.33%). Chand *et.al* (2021) real the similar study in ethnoveterinary practices.

In case of late maturity and anestrus, boiled Desi ghee was most commonly used ITK followed by til cake with red lentil, green gaur, crud with boiled meth grain, carrot seed with 'Khand', and avoid stall feeding, carry animal for grazing. During interaction with farmers heat they elaborated that carrying animal for grazing and these things will increase body activity therefore induce heat in the positive manner. Very few similar works have been conducted in the past, whereas, present observations are corroborated well with previous study (Chand, 2011; Chand *et al.,* 2021).

The naval of animal is smear with oil or ghee and warm for few minutes was most common ITK used by majority (79.17%) of farmers in case of retention of fetal membrane (RFM) and other practices followed are as follows; gur in Luke warm water, bamboo leaves, rice grain, meth with jiggery. It was explained by farmers during survey that they explained these things stimulate expulsion of placenta. Present observations are in agreement with Chand (2011) and Chand *et al.* (2021).

To manage prolapse, the majority of dairy farmers (87.5%) provide long rest to affected animals, and other ITK used was correcting mild prolapse by themselves using lather shoe, desi ghee and pumpkin, warming of rear part of animal, reduce feeding specially concentrate (Table 1). To manage abortion and still birth, majority of farmers (76.67%) drenches ghee for 2-3 days. Furthermore, the majority (58.67%) of farmers believes in treatment of dystocia by Call veterinary officer/ livestock assistant and followed by animal is Force to move on uneven ground. Present observations are in line with Chand (2011) and Chand *et al.* (2021).

Table 2: Constraints on reproductive disorders management faced by the dairy farmers

S. No.	Constraints	Very serious (%)	Serious (%)	Not serious (%)	Weightage mean (%)
1.	Lack of grazing fields	108 (72)	33 (22)	9 (6)	100

2.	New generation do not take interest towards animals	83 (55.33)	65 (43.33)	2 (1.34)	98.88
3.	Lack of facilities of veterinary officer during night	78 (52.00)	67 (44.67)	5 (3.33)	94.16
4.	Lack of government schemes for managing dairy herd	78 (50.67)	68 (45.33)	6 (4.00)	92.54
5.	High cost for treatment of reproductive disorders	77 (51.33)	64 (42.33)	9 (6.00)	76.11
6.	High price of concentrates	75 (50.00)	68 (45.33)	7 (4.67)	72.77
7.	Poor conception rate with A.I.	67 (44.67)	78 (52.00)	5 (3.33)	67.77
8.	Lack of knowledge regarding balanced feed	64 (42.67)	82 (54.67)	4 (2.66)	64.44
9.	Lack of knowledge regarding silent heat in buffalo	67 (44.67)	72 (48.00)	11 (7.33)	63.61
10.	Lack of knowledge about timing of insemination	64 (42.67)	74 (49.33)	12 (8.00)	63.61
11.	Lack of green fodder	60 (40.00)	82 (54.67)	8 (5.33)	63.05
12.	In time A.I. facilities are not available at the village	56 (37.33)	84 (56.00)	10 (6.67)	37.77
13.	Lack of trained professional for insemination	65 (43.33)	62 (41.33)	23 (15.34)	33.05

In current study, out of 13 ranked constraints (Table 2), Lack of grazing fields (100) was ranked first constraint because all available land was used for agriculture. New generation do not take interest towards animals (98.88) second highest constraint because less profit faced by dairy farmer. Lack of facilities of veterinary officer during night (94.16) was third ranked constraint because residential facility not available at hospitals. Lack of government schemes for managing dairy herd (92.54) was fourth ranked constraint faced by dairy farmers. High cost for treatment of reproductive disorders (76.11) was fifth ranked constraint because sick animal do not transport to government veterinary hospital, hence call private practitioner and had to pay high fee for service charge and medicine cost. High price of concentrates (72.77) was ranked sixth constraint faced by dairy farmers. Poor conception rate with artificial insemination (67.77) was ranked seventh constraint because of poor quality of semen, improper timing of artificial insemination. Lack of knowledge regarding balanced feed (64.44) was ranked eight constraints as balanced feed especially green fodder and mineral mixture along with roughage and concentrate is essential for optimum reproductive performance of dairy animals. Lack of knowledge regarding silent heat in buffalo (63.61) was ninth ranked constraints faced by dairy farmers. Lack of knowledge about timing of insemination (63.61) was tenth ranked constraints faced by dairy farmers. Lack of green fodder (63.05) was eleventh ranked constraints faced by dairy farmers. In time A.I. facilities are not available at the village (37.77) was t ranked constraints faced by dairy farmers. Lack of trained professional for insemination (33.05) was thirteenth ranked constraints faced by dairy farmers. Present observations are in agreement with Chand (2011).

CONCLUSION

Majority (87.50%) of dairy farmers in case of prolapsed and other ITKs used are as follows; correct mild prolapsed by themselves using lather shoe, desi ghee and pumpkin, warming of rear part of animal, reduce feeding specially concentrate. Lack of grazing fields (100) was ranked first constraint because all available land was used for agriculture. Lack of facilities of veterinary officer during night (94.16%) was third ranked constraint because residential facility not available at hospitals.

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CONFLICT OF INTEREST

The authors declare that they have no competing interest with this manuscript.

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