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Original Research Article

Knowledge and management practices of infantile colic among mothers attending the paediatric outpatient clinic in port Harcourt, Nigeria

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ABSTRACT

Background: Infantile colic is a functional gastrointestinal disorder not explained by organic or biochemical abnormalities. The aim of the study was to assess the knowledge and practice of infantile colic management among mothers in Southern Nigeria.
Methods: It was a cross-sectional study carried out over one-year period using interviewer-administered questionnaires.
Results: Of 327 mothers recruited, most were of age group 28-37 years 204 (62.4%), had tertiary level of education 226 (69.1%), with parity of two 214 (65.4%) and were presently nursing infants of 1-12 months of age 227 (69.4%). Majority 259 (79.2%) lived in urban areas and belonged to the upper socioeconomic class 163 (49.8%). Most mothers 249 (76.1%) had heard of infantile colic majorly from parents/relatives/in-laws (29.1%). Majority of them said colic was a physiologic process 201 (82.0%) while 142 (58.0%), due to gas in the intestines. Incorrect knowledge of features of colic included vomiting, passage of green-coloured stools and fever. Most mothers had good knowledge of infantile colic (44.3%) and this was significantly associated with higher level of education and socioeconomic class. Most children 206 (63.0%) brought to the clinic had had infantile colic which started mostly at 0-4 months 223 (68.2%) and resolved by 3-5 months of age 171 (52.3%). The most common treatment practices were the use of nospamin (38.1%) and grippe water (33.5%), prescribed mostly by healthcare workers (27.3%) and purchased from chemist shops (71.8%).
Conclusion: There was good knowledge of infantile colic among mothers in the study. However, there is still need to increase public enlightenment on the benign and self-limiting nature of infantile colic.

Keywords: Infantile colic, Knowledge, Practices, Mothers, Nigeria

INTRODUCTION

The term colic was derived from the Greek word ‘koikos” or “kolon” suggesting a disturbance in the gastrointestinal tract. Infantile colic is one of the functional gastrointestinal disorders with chronic or recurrent gastrointestinal symptoms not explained by organic or biochemical abnormalities. Wessel et al described colic in 1954 as paroxysms of crying lasting more than three hours, occurring more than three days in a week for three weeks in an infant who is well-fed and otherwise healthy.[1,2] Infantile colic is commonly described as a behavioural syndrome in neonates and infants whose aetiology is poorly understood and often occurs without any identifiable cause. Infantile colic is therefore a diagnosis of exclusion hence other causes of excessive crying must be sought for and excluded such as diarrhoea, scrotal or inguinal swelling, pyloric stenosis, child abuse, corneal ulceration, hair tourniquet syndrome, inadequate feeding among other causes.[1-4] The diagnosis of infantile colic was made initially using the Wessel et al’s ‘Rule of Threes’ criteria described as crying or

fussing more than three hours per day, for more than three days per week and for longer than three weeks.[1-5] Another diagnostic criterion is the Rome IV criteria which is also symptom-based and a modification of the Wessel et al's 'Rule of Threes' criteria. It includes reports via telephone or physical consult with a clinician of a positive history of excessive cry or fussing of an infant for three or more hours per day, for three or more days in the preceding week and in addition evidence of same symptoms in parents' diary. Parents are thus encouraged to keep a 24-hour behavior diary to confirm that the total amount of crying and fussing is more than 3 hours per 24 hours. The cry in infantile colic has been typically described as a high-pitched scream, occurring mainly in the late afternoon or evening but may occur at any time.[3] Infantile colic typically starts at a very early age in otherwise healthy infants, peaks around six to eight weeks and resolves by four to six months.[1-3] Infantile colic affects 10-40% of infants worldwide and occurs equally in both sexes.[1-3] The cause of infantile colic is not known but proposed causes include alterations in faecal microflora, intolerance to cow's milk protein or lactose, gastrointestinal immaturity or inflammation, increased serotonin secretion, poor feeding technique as well as maternal smoking or nicotine replacement therapy.[3,5,6]

The maternal knowledge of this condition is important in its management. Sources of knowledge of infantile colic in Saudi Arabia and Lagos Nigeria was from previous experiences and from friends and relatives.[7,8]

The treatment of infantile colic is usually started at home by parents/caregivers who may later involve health care providers especially when symptoms are not abating. There has been no known treatment for infantile colic. The use of herbal concoction for the treatment of infantile colic was reported by Al Sheri et al, in Saudi Arabia, Oshikoya et al, in Lagos and Chinawa et al, in Enugu. Researchers, also documented the use of gripe water, nospamin, paracetamol, teething powder and salt water for the treatment of their babies with infantile colic.[7-9]

After exclusion of organic causes, parental support and re-assurance on the self-limiting nature of infantile colic are key components in its' management. Simethicone and proton pump inhibitors which are commonly used by clinicians are ineffective for the treatment of colic while dicyclomine is contraindicated. Treatment options proposed for breastfed infants include probiotic Lactobacillus reuteri (strain DSM 17938) and the reduction of maternal dietary allergen intake. For formula fed infants, switching to a hydrolyzed formula may be beneficial. Evidence however, does not support chiropractic or osteopathic manipulation, infant massage, swaddling, acupuncture or the use of herbal supplements.[1-6]

Studies on infantile colic have been carried out around the globe. To the best of our knowledge however, there is a dearth of published work on this issue in Southern Nigeria and Nigeria in general. It is hoped that this study may shed more light on mothers' knowledge on infantile colic mainly with regards to its aetiology, clinical symptoms and approach to management.

METHODS

This was a cross sectional study carried out over a period of one year from February 1st 2023 to 31st January, 2024 among mothers assessing health care for their children at a tertiary health facility in Southern Nigeria.

The Rivers State University Teaching Hospital (RSUTH) is a 500-bedded hospital located in Port Harcourt, Rivers State. Rivers State, also known as the Treasure Base of the nation, is situated in the South-South geopolitical zone of Nigeria in West Africa. It is bounded on the south by the Atlantic Ocean, on the north by Imo, Abia and Anambra States, on the east by Akwa Ibom State and on the west by Bayelsa and Delta States.

The RSUTH is made of different clinical and non-clinical departments. The clinical departments include Paediatrics, Internal Medicine, Surgery, Family medicine and Obstetrics and Gynaecology. The Paediatrics department has the outpatient and inpatient units. The outpatient unit is run from Monday to Friday from 8.00 am to 4.00 pm by consultants, resident doctors, house officers and other support staff such as the nurses, cleaners and other clerical staff.

Ethical approval

Ethical clearance was obtained from the RSUTH Health Research Ethics Committee. Verbal consent was obtained from the mothers of the children before commencement of the study.

Sampling technique

A convenient sampling technique was employed and three hundred and twenty-seven mother-child pair were recruited consecutively into the study.

Inclusion criteria

Inclusion criteria were all mothers whose child was 0-24 months old in order to minimize recall bias and who granted consent to participate in the study.

Exclusion criteria

Mothers whose child was above 24 months old and/or who did not give consent to participate in the study were excluded.

A pre-tested questionnaire was administered to eligible participants by the researchers on one-on-one basis. The questionnaire consisted of biodata, knowledge level of mothers on infantile colic, source of information and their

management practices of infantile colic. The socioeconomic class of the participants were calculated using Oyedeji classification.[10]

To assess the knowledge level, a total of 17 questions were asked and a mark awarded for each correct answer. The total score was scaled up to 100%. Knowledge was good if a score of 70-100% was obtained, fair if 50-69% and poor if below 50%.

Data was entered into an Excel sheet and Statistical Package for Social Sciences (SPSS) version 23 was used for analysis. Results were presented as descriptive data using tables, figures and charts. Chi square test and Fisher's Exact test were used for test of association. Statistical significance was set at P value of .05 at 95% confidence interval.

RESULTS

Socio-demographic characteristics of mothers

Of 327 respondents, majority were of age group 28-37years 204 (62.4%), married 304 (93.0%) and resided in urban area 259 (79.2%). They had mainly tertiary education 226 (69.1%) and engaged mostly in business/trading 135 (41.3%). Fathers majorly had tertiary education 235 (71.9%) and engaged in business/trading 130 (39.8%). The predominant socioeconomic class was upper class 163 (49.8%), parity of the mothers was majorly two 214 (65.4%) and originated mostly from the southern region of Nigeria 214 (65.4%), Table 1.

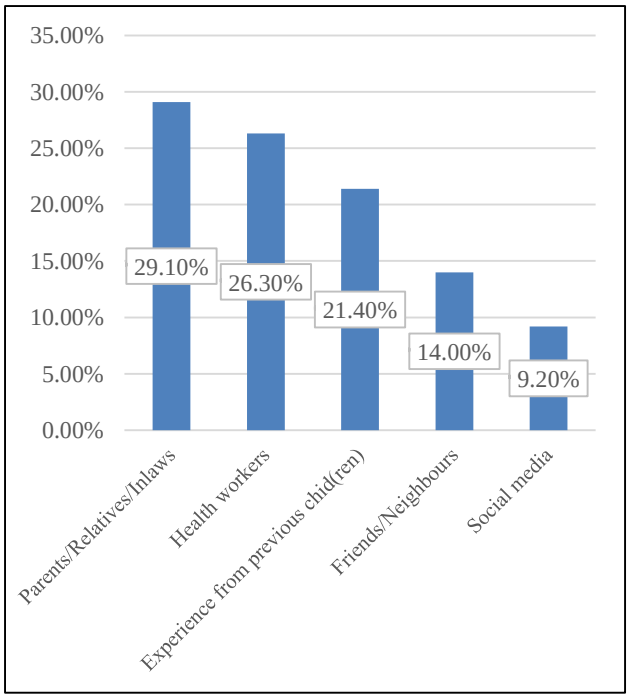

Figure 1: Source of information.

Knowledge of infantile colic amongst mothers

Most respondents had heard of infantile colic 249 (76.1%) and knew the age of occurrence as 0-4 months 247 (75.6%). Majority knew the correct characteristics of infantile colic which included excessive cry 256 (90.1%), infant being otherwise healthy 218 (76.8%), colic occurred at any time of the day 200 (70.4%), infant drew up knees to the stomach while crying 198 (69.7%) and passed lots of flatus 170 (59.9%) however, only a few knew the child's face turned red while crying 106 (37.3%). More respondents knew that infantile colic is self-limiting 183 (56.0%) of which 174 (53.2%) knew colic resolved at age 3-5 months. Most respondents knew infantile colic is not dangerous 245 (74.9%) and it is a normal physiologic/body process 201 (82.0%), Table 2.

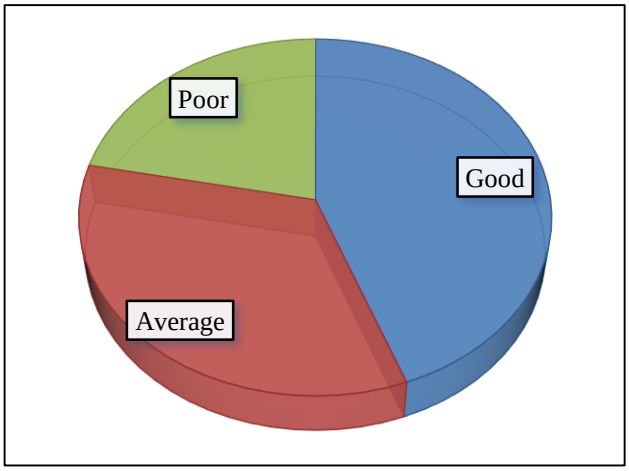

Figure 2: Knowledge level of infantile colic among mothers.

Sources of information

The commonest source of information about infantile colic was from parents/relatives/in-laws while the least was social media, Figure 1.

Knowledge level of infantile colic among mothers

Most respondents had good knowledge (44.3%) while the least had poor knowledge (21.8%), Figure 2.

Management practices of infantile colic among mothers

Most respondents' children were aged 1-12 months 227 (69.4%) and were exclusively breastfed 185 (61.9%). Majority of the children had infantile colic 206 (63.0%), were of male sex 144 (55.6%), aged 0-4 months when infantile colic was observed 223 (68.2%) and resolved at age 3-5 months 171 (52.3%). Most respondents gave medications for infantile colic 176 (53.8%), majorly nospamin 67 (38.1%) and grippe water 59 (33.5%). Medications given were mainly recommended by health workers 48 (27.3%) and were purchased mostly from chemist stores 117 (71.8%), Table 3.

Association between knowledge and mothers' socio-demographic characteristics

Mother's level of education, father's occupation and socioeconomic status were significantly associated with knowledge level of the respondents (P value 0.017, 0.033, 0.002 respectively), Table 4.

Factors affecting knowledge of infantile colic among mothers

Logistic regression showed that respondents in the lower socioeconomic class were 2.7 times more likely to have moderate/poor knowledge of infantile colic as compared with those of upper socioeconomic class, P value 0.001, Table 5.

Table 1: Sociodemographic characteristics of mothers.

Variables	Frequency, n=327 (%)
Age group (in years)	
18-27	65 (19.9)
28-37	204 (62.4)
>37	58 (17.7)
Marital status	
Single	21 (6.4)
Married	304 (93.0)
Co-habiting	2 (0.6)
Place of residence	
Urban	259 (79.2)
Rural	56 (17.1)
Suburban	12 (3.7)
Mother's level of education	
Primary	12 (3.7)
Secondary	89 (27.2)
Tertiary	226 (69.1)
Mother's occupation	
Civil servant	20 (6.1)
Public servant	67 (20.5)
Business/trader	135 (41.3)
Artisan	29 (8.9)
Professional	36 (11.0)
Unemployed/student	40 (12.2)
Father's level of education	
Primary	25 (7.6)
Secondary	67 (20.5)
Tertiary	235 (71.9)
Father's occupation	
Civil servant	46 (14.0)
Public servant	30 (9.2)
Business/trader	130 (39.8)
Artisan	43 (13.1)
Professional	62 (19.0)
Unemployed/student	16 (4.9)
Socio-economic status	
Lower class	70 (21.4)
Middle class	94 (28.8)
Upper class	163 (49.8)
Maternal parity	
One	101 (30.9)
Two	118 (36.1)
Three and above	108 (33.0)
Region	
Eastern	90 (27.5)

Continued.

Variables	Frequency, n=327 (%)
Southern	214 (65.4)
Western	11 (3.4)
Northern	12 (3.7

Table 2: Knowledge of infantile colic amongst mothers.

Variables	Frequency, n=327 (%)
Ever heard of infantile colic	
Yes	249 (76.1)
No	78 (23.9)
Age of occurrence of infantile colic (months)	
0-3	247 (75.6)
4-11	22 (6.7)
≥11	2 (0.6)
I don't know	56 (17.1)
Characteristics of infantile colic, multiple response, n = 1529	
Correct characteristics	
Baby cries excessive	256 (90.1)
Baby is otherwise healthy	218 (76.8)
Infantile colic happens at any time of the day	200 (70.4)
Baby draws up knees to the stomach while crying	198 (69.7)
Baby passes flatus a lot	170 (59.9)
Baby doesn't get consoled by breastfeeding	130 (45.8)
Baby's face turns red while crying Incorrect characteristics	106 (37.3)
Baby passes green coloured stools	99 (34.6)
Baby may have fever	84 (29.6)
Baby may vomit	68 (23.9)
Infantile colic is self-limiting	
Yes	183 (56.0)
No	144 (44.0)
If yes, at what age infantile colic resolves (months)	
3-5	174 (53.2)
6-8	45 (13.8)
>8	4 (1.2)
I don't know	104 (31.8)
Infantile colic is dangerous	
Yes	82 (25.1)
No	245 (74.9)
Causes of infantile colic, multiple responses, n = 468	
Presence of gas in the intestine	142 (58.0)
Allergy to formula milk	72 (29.4)
Presence of worms in the intestine	53 (21.6)
Normal physiologic/body process	201 (82.0)

Table 3: Management practices of infantile colic among mothers.

Variables	Frequency, n=327 (%)
Age of last child (months)	
1-12	227 (69.4)
12-24	100 (30.6)
Infant's feeding option 1st 6 months of life, n = 299	
Exclusive breastfeeding	185 (61.9)
Predominant breastfeeding	72 (24.1)
Formula feeds	42 (14.0)

Continued.

Variables	Frequency, n=327 (%)
Present child had infantile colic	
Yes	206 (63.0)
No	121 (37.0)
Presence of infantile colic in any other child(ren) in the family	
Yes	130 (39.8)
No	197 (60.2)
Sex of child who had infantile colic, n = 259	
Male	144 (55.6)
Female	115 (44.4)
Age group of child when infantile colic occurred (months)	
0-4	223 (68.2)
5-11	13 (4.0)
≥12	2 (0.6)
I don't know	89 (27.2)
Age group of children when infantile colic resolved (months)	
3-5	171 (52.3)
6-8	15 (4.6)
>8	4 (1.2)
I don't know	137 (41.9)
Were medication(s) given	
Yes	176 (53.8)
No	151 (46.2)
Medications given	
Paracetamol	16 (7.4)
Nospamin	67 (38.1)
Grippe water	59 (33.5)
Bonababe	1 (0.6)
Gbomoro	2 (1.1)
Herbal drugs	4 (2.3)
Others	30 (17.0)
Where medications were prescribed, n=176	
Hospital	34 (19.3)
Health worker	48 (27.3)
Chemist	13 (7.4)
Parents/relatives/in-laws	45 (25.6)
Friends/neighbours	24 (13.7)
Self-medication	5 (2.8)
Social media	2 (1.1)
Other sources	5 (2.8)
Where medication was purchased	
Hospital	31 (19.0)
Chemist	117 (71.8)
Market	15 (9.2)

Table 4: Association between knowledge and sociodemographic characteristics of mothers.

Variables	Knowledge level		Fishers esxact
Age group (in years)	**Good, N (%)**	**Average/Poor, N (%)**	**P value**
18-27	23 (15.9)	42 (23.1)	
28-37	97 (66.9)	107 (58.8)	0.227
>37	25 (17.2)	33 (18.1)	
Marital status			
Single	8 (5.5)	13 (7.1)	

Continued.

Variables	Knowledge	level	Fishers esxact
Married	136 (93.8)	168 (92.3)	0.828
Co-habiting	1 (0.7)	1 (0.5)	
Place of residence			
Urban	111 (76.6)	148 (81.3)	
Suburban	30 (20.7)	26 (14.3)	0.259
Rural	4 (2.8)	8 (4.4)	
Mother's level of education			
Primary	4 (2.8)	8 (4.4)	
Secondary	29 (20.0)	60 (33.0)	0.017
Tertiary	112 (77.2)	114 (62.6)	
Mother's occupation			
Civil servant	9 (6.2)	11 (6.0)	
Public servant	37 (25.5)	30 (16.5)	
Business/Trader	55 (37.9)	80 (44.0)	0.235
Artisan	10 (6.9)	19 (10.4)	
Professional	19 (13.1)	17 (9.3)	
Unemployed/Student	15 (10.3)	25 (13.7)	
Father's occupation			
Primary	11 (7.6)	14 (7.7)	
Secondary	23 (15.9)	44 (24.2)	0.162
Tertiary	111 (76.6)	124 (68.1)	
Father's occupation			
Civil servant	16 (11.0)	30 (16.5)	
Public servant	11 (7.6)	19 (10.4)	
Business/Trader	61 (42.1)	69 (37.9)	0.033
Artisan	13 (9.0)	30 (16.5)	
Professional	37 (25.5)	25 (13.7)	
Unemployed/Student	7 (4.8)	9 (4.9)	
Socioeconomic status			
Lower	21 (14.5)	49 (26.9)	
Middle	37 (25.5)	57 (31.3)	0.002
Upper	87 (60.0)	76 (41.8)	
Maternal parity			
One	45)31.0)	56 (30.8)	
Two	50 (34.5)	68 (37.4)	0.841
Three and above	50 (34.5)	58 (31.9)	
Region			
Eastern	45 (31.0)	45 (24.7)	
Southern	91 (62.8)	123 (67.6)	0.409
Western	3 (2.1)	8 (4.4)	
Northen	6 (4.1)	6 (3.3)	

Table 5: Factors affecting knowledge of infantile colic among mothers.

Variables	OR (95% CI) average/poor	P value
Mother's level of education		
Primary	2.0 (0.575-6.711)	0.281
Secondary	2.0 (1.215-3.400)	0.007
Tertiary (ref)	-	-
Socioeconomic status		
Lower	2.7 (1.471-4.851)	0.001
Middle	1.8 (1.053-2.953)	0.031
Upper (ref)	-	

DISCUSSION

Most mothers interviewed were aged 28-37 years as was the case with other researchers[7,9,11] who documented women aged 30-39 years as the most common age group interviewed. In contrast, younger mothers aged 20-24 years was reported by Jasim and Hasan and 21-25 years by Oshikoya et al, as the commonest age group interviewed in Bagdad, Iraq and Lagos, Nigeria respectively.[8,12] This difference could be attributed to the culture and religious beliefs of the people. Muslims predominated in the latter 2 study areas, whose women marry much earlier and as such more likely to have a much earlier reproductive life.

More than 2/3rd of the mothers (69.1%) interviewed in the present study had tertiary level of education as reported in other studies.[7-9,12-14] Secondary and primary levels of education were reported in other studies.[11,15] These variations could be due to the geographic locations and whether the study was carried out in an urban or rural area. In the present study, more than 3/4th (79.2%) mothers lived in urban areas and thus could account for the high level of tertiary education.

In the present study, majority of the mothers were engaged in business/trading accounting for about 41.3% as also reported in Lagos, Nigeria. Civil servants were reported as the commonest occupation among mothers interviewed in Enugu, Nigeria whereas most mothers were housewives or unemployed in Iraq, Saudi Arabia and Turkey.[8,9,11,12,14,16]

About 3/4th (76.1%) of the mothers have heard of infantile colic. A much higher percentage of 93.4% and 96.2% were reported by Shwe et al and Al Zahrani and Antect in Plateau State, Nigeria and Saudi Arabia respectively.[14,17] This high percentage is not surprising as most of the respondents had tertiary education with possible access to information. In addition, most of the respondents had a parity of two and above so may have been exposed to a case of infantile colic or may have had experience from previous babies.

Most respondents (75.6%) knew the correct age of occurrence of infantile colic being 0-3 months. This is not unexpected as these mothers were educated and thus may have been exposed to literatures in respect to infantile colic. Similarly, Al Zahrani and Antrect in their cross-sectional study in Saudi Arabia documented 60.5% of respondents knew infantile colic occurred at 2-12 weeks of age whereas Chinawa et al, in Enugu, Nigeria in a similar study reported that 99.4% respondents knew infantile colic occurred at 0-3months of age.[9,14] These differences could be attributable to the varying sample sizes. The very high percentage in the Enugu study could be because of the much smaller sample size of 177 respondents unlike the latter which had a much higher sample size of 425.[9,14] It is pertinent to note that small sample sizes could lead to exaggerated prevalence.

Majority (90.1%) respondents knew that infants with colic cried excessively. This was much higher than that reported by Oshikoya et al, being 62.6% in Lagos, Nigeria and Al Zahrani and Antrect in Saudi Arabia being 58.8%.[8,14] These variations could be attributable to varying geographic location and their level of education. In the latter studies tertiary level of education accounted for 62% and 25% respectively.[8,14] Most mothers (70.4%) knew that infantile colic could occur at any time of the day. This was however contrary to findings by Chinawa et al, in Enugu, Nigeria who reported most respondents (48%) knew infantile colic occurred mostly at night whereas only 17.5% knew it occurred at all times.[9] In addition, Sofi and Mustafa in Iraq reported that 66.1% respondents said colic occurred mostly in the afternoons and evenings.[11] The low level of knowledge in the latter study could be due to the fact that most mothers, (33.1%) had primary level of education unlike in the present study where more than 2/3rd mothers had tertiary level of education.[11]

About 2/3rd respondents (69.7%) knew that infants with colic drew up their knees to their stomach while crying in the present study. Only 42.6% of respondents corroborated this fact in a study in Saudi Arabia.[14] The much higher percentage in the present study was not surprising as close to 2/3rd of the mothers had a previous child with infantile colic.

Only about a 1/4th (37.3%) respondents knew that the infants face turned red while crying as similarly observed by Al Zahrani and Antect in Saudi Arabia.[14] Contrary to the present study, this was documented by more than 3/4th (86.5%) respondents as reported by Sofi and Mustafa in Iraq.[11] This finding in our research was not surprising since the melanin-toned negroid dark skin of our respondents may have made it difficult to appreciate the redness of the face during the cry of the baby unlike the skins of the Caucasians.

More than 1/3rd (34.6%) respondents had an incorrect knowledge of infants with colic passing green-coloured stools. Other incorrect information was infantile colic being associated with fever (29.6% respondents) and vomiting (23.9% respondents). This was also the case in Enugu, where 14.7% respondents incorrectly said that infantile colic was associated with diarrhoea and 12.4% thought, it was associated with passage of greenish stools.[9] This wrong knowledge could lead to unnecessary use of drugs thus education of the populace especially pregnant women and mothers on infantile colic will prevent this menace.

About ½ (56.0%) knew that infantile colic was self-limiting and 53.2% respondents knew correctly that infantile colic resolved at 3-5 months of age. A much higher percentage of respondents 62.8%, 61.1% and 81.2% were reported in Saudi Arabia, Lagos, Nigeria and Iraq respectively.[8,11,14] The reason for the varying differences could not be ascertained.

Close to 3/4th (74.9%) respondents knew that infantile colic was not dangerous in the present study. Interestingly, 82.0% respondents knew that infantile colic is a physiologic process. Similar to the present study, 39.3% respondents in Turkey, thought that infantile colic could harm babies in future while 8.7% respondents in Saudi Arabia said infantile colic was dangerous.[14,15] The wrong belief of infantile colic being dangerous could therefore lead to anxiety and the commencement of unnecessary treatment. This thus calls for education of mothers about infantile colic. Presence of gas in the intestine being a hypothesized cause of infantile colic was correctly documented by about ½ (58.0%) of the respondents in the present study. In a study in Iraq, a much higher percentage of 96.7% respondents knew that colic was the accumulation of excess gas in the abdomen.[11] In contrast, in Lagos only 39.8% respondents corroborated this finding while 3.3% in Plateau, Nigeria said that infantile colic was caused by swallowed air.[8,17]

More than 1/4th respondents (29.4%) knew correctly that milk allergy was a cause of infantile colic as also observed in Saudi Arabia and Turkey.[13,15] In Iraq, more (84.1%) respondents said that formula fed infants had a higher risk of developing infantile colic. Thus, exclusive breast feeding should be encouraged in the 1st 6 months of life as a preventive measure of infantile colic.

In the present study, close to 1/4th (21.6%) respondents attributed the presence of worm infestation as a cause of infantile colic corroborating 11.9% respondents in Lagos.[8] Other incorrect assumptions have been documented as reported by Chinawa et al, in Enugu, Nigeria who reported 20.3% respondents attributed malaria as a cause while Unal et al, in Turkey attributed foods the mother ate (89.3%), mother not keeping warm (65.3%) and depression in the mother (40.0%).[9,15] These misconceptions about infantile colic could result in the wrong administration of drugs as a means of treatment of this condition. Also, it could lead to delay in seeking health care from professionals for serious illnesses that could lead to infant morbidity and mortality. Thus, correct maternal knowledge of this benign condition and its' natural course would eliminate negative impacts on the mother and family members such as anxiety.

In the present study, 44.3% mothers had good knowledge followed by fair knowledge of 33.9% whereas 21.8% had poor knowledge. In a similar study carried out in Bagdad, Iraq and with the use of same criteria for the different levels of knowledge, most respondents had fair knowledge accounting for 69.2% with only 7.6% having good knowledge of infantile colic.[12] In addition, about 80% of mothers in a study in Saudi Arabia had poor knowledge about infantile colic.[7] This result was not unexpected as in the present study more than 2/3rd (69.1%) respondents had tertiary education whereas in the latter only 37.2% had college or higher degree with 9.3% being illiterates. This therefore corroborates the finding in the present study that the mothers' level of education was significantly associated with their knowledge level as also reported in another Nigerian study.[8] The level of education of the mothers also played a huge role in the determination of the socioeconomic status of the family as observed in the present study where close to ½ (49.8%) respondents were of the high socioeconomic class. In the present study, logistic regression showed that respondents of the lower socioeconomic class were almost three times more likely to have moderate/poor knowledge level than those of the upper socioeconomic class. In addition, in the present study, 63.0% respondents had a previous child with colic which may have increased their knowledge level. This is supported by the findings by Al-Shehri et al, in their cross-sectional survey in Riyadh, Saudi Arabia where mothers with 2-3 children had significant knowledge of infantile colic than mothers with 1 or>3 children.[7] It is noteworthy that the age of mothers did not have any significant association with the level of knowledge in the present study as also documented by Sofi & Mustafa.[11] Contrarily, a study in Saudi Arabia documented significant correlation between maternal age and their knowledge level.[7]

The commonest sources of information in the present study were from parents/relatives/in-laws (29.1%) closely followed by health workers (26.3%). This was also the case in Saudi Arabia and Iraq.[12-14] Health care providers/health facility were documented as the commonest sources of information in another Nigerian study and Turkey while previous experience was reported as the commonest source of information in a study in Saudi Arabia.[7,15,17] Interestingly, social media/internet which is a major source of information presently was one of the least common sources of information in the present study as well as in other studies.[7,15,17] Mass enlightenment campaigns should therefore be carried out via various social media platforms as well as televisions and radio so as to disseminate information about infantile colic.

Slightly more than ½ (53.8%) of the respondents in the present study gave their child(ren) medications who had suspected infantile colic. Similarly, 70.2% and 83.1% respondents in Saudi Arabia and Enugu, Nigeria respectively gave medications for infantile colic.[7,9] This was surprising as a large percentage (82.0%) respondents knew that infantile colic is a physiologic process and in addition close to 3/4th (74.9%) respondents in the present study knew it was not a dangerous condition. However, continuous cries of infant from colic especially when it becomes prolonged could lead to maternal distress and anxiety with adverse psychosocial impact on the family.[18] This was consistent with the findings by Al Zahrani et al, in their multicentre study in Saudi Arabia where more than 3/4th (81.4%) mothers admitted to have been frustrated and exhausted due to the excessive cries of their infant(s).[14] This could be responsible for the self-medication observed in these mothers as they usually would have the feeling of satisfaction, having intervened in their child's problem. Contrary to the above findings

however, 1/3rd (33.0%) mothers in Riyadh, Saudi Arabia did not give any medical treatment although 27.4% gave herbal medicines, 18.3% considered an alteration of milk formula given while 1.7% actually stopped breastfeeding as a form of treatment.[7]

Nospamin (38.1%) and gripe water (33.5%) were the commonest medications given for infantile colic in the present study. Nospamin is an anticholinergic homatropine methylbromide which has been observed to have benefit in the treatment of infantile colic.[19] Grippe water which is the 2nd commonest medication given in the present study has been in use for over a decade.[20] Its' alcohol content provides a soothing effect, the bicarbonate content provides a neutralizing effect to the gastric acid while the carminative in the plant extract provides the soothing effect of the infant in the presence of excess gas in the lumen that may cause pain.[21-23] Herbal preparations were given mostly in Lagos, Nigeria and Saudi Arabia while paracetamol was the case in Enugu, Nigeria.[9,13] In Plateau, Nigeria antibiotics was mostly given by mothers accounting for close to ½ (44.5%) of cases.[17]

In another study in Saudi Arabia, 75.5% mothers utilized semithicone for the treatment of colic in infants as also documented in another study.[11,24] The differences in the practices of the mothers could be due to varying geographic/cultural practices, level of education and maternal previous experiences. It is worthy of note that there is no specific standardized treatment for infantile colic as the condition being a normal physiologic process has un-clear underlying cause and pathophysiology. It is pertinent to note that presently, counselling, reassurance of the parents and behavioral management are the mainstays of treatment of infantile colic.

The behavioral hypothesis includes; calming the infant with motion, minimizing sound and stimuli as well as supportive care such as hugging, comforting and distracting the infants' attention.[25] Encouraging exclusive breastfeeding thereby preventing swallowing of air and cow's milk allergies also reduces the incidence of infantile colic. The benefits of health education of mothers and the populace therefore cannot be overemphasized. This would prevent the use of unnecessary medications with prevention of their potential side effects as well as help curb the menace of antibiotic resistance.

CONCLUSION

In conclusion, there was good knowledge of infantile colic among mothers attending the Paediatric Outpatient clinic of the RSUTH. More than half of the mothers gave medications to their children who had suspected infantile colic with the commonest being nospamin and grippe water. The benefits of health education of the public especially mothers and women of child bearing age cannot be overemphasized as this will prevent the unnecessary use of medications and their potential side effects.

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REFERENCES

1. Drossman DA. Functional Gastrointestinal Disorders: History, Pathophysiology, Clinical Features and Rome IV. Gastroenterol. 2016;19(16)223-7.
2. Wessel MA, Cobb JC, Jackson EB, Harris GS, Detwiler AC. Paroxysmal fussing in infancy, sometimes called colic. Pediatr. 1954;14(5):421-35.
3. Johnson JD, Cocker K, Chang E. Infantile Colic: Recognition and Treatment. Am Family Phys. 2015;92(7):577–82.
4. Ali AM. Helicobacter pylori and infantile colic. Arch Pediatr Adolesc Med. 2012;166(7):648-50.
5. Freedman SB, Al-Harthy N, Thull-Freedman J. The crying infant: diagnostic testing and frequency of serious underlying disease. Pediatr. 2009;123(3):841-8.
6. Zeevenhooven J, Koppen IJ, Benninga MA. The new Rome IV criteria for functional gastrointestinal disorders in infants and toddlers. Pediatr Gastroenterol Hepatol Nutr. 2017;20(1):1-13.
7. Al-Shehri H, Al-Mogheer BH, Al-Sawyan TH, Abualalaa AB, Jarrah OA, Jabari M, et al. Assessment of maternal knowledge about infantile colic in Saudi Arabia. Electron Phys. 2016;8(12):3313-7.
8. Oshikoya KA, Senbanjo IO, Njokanma OF. Self-medication for infants with colic in Lagos, Nigeria. BMC pediatr. 2009;9(9):1417.
9. Chinawa JM, Ubesie AC, Adimora GN, Obu HA, Eke CB. Mothers' perception and management of abdominal colic in infants in Enugu, Nigeria. Niger J Clin Pract. 2013;16(2):169-73.
10. Oyedeji GA. Socio-economic and cultural background of hospitalized children in Ilesha. Nig J Paed. 1985;12:111-7.
11. Sofi HH, Mustafa IH. Mother's knowledge and beliefs about home management for infant colic in Raparin Administration. J Sulaimani Med Coll. 2023;13(3):321-32.
12. Jasim RK, Hasan LA. Knowledge and practice of mothers about infantile colic attending Central Paediatric Teaching Hospital in Bagdad. Iraqi J Comm Med. 2023;1:23-8.
13. Mustafa M, Kariri TM, Majrabi RQ, Hufaysi AH, Abutalib Y, Khormi R, et al. Mothers' perceptions and attitudes about infantile colic in Jazan, Saudi Arabia. Cureus. 2023;15(11):48210.
14. Al Zahrani T, Antrect AM. Mothers' awareness towards infantile colic in Saudi Arabia. Cureus. 2023;15(12):50364.

15. Unal ET, Bulbul A, Elitok GK, Avsar H, Uslu S. Evaluation of the knowledge level and attitude of mothers about infantile colic. Haydarpasa Numene Med J. 2021;61(1):38-44.
16. Oflu A, Bukulmez A, Gorel O, Acar B, Can Y, Ilgaz NC, et al. Complementary and alternative medicine experiences of mothers in the treatment of infantile colic. Sudan J Paediatr. 2020;20(1):49.
17. Shwe DD, Abba JO, Toma BO, Stephen AS, Kanhu PU, Shitta AH, et al. Knowledge and practice of health care workers on infantile colic in the highlands of Nigeria. Int J Innovative Med Health Sci. 2015;4:1-5.
18. Dobson D, Lucassen PL, Miller JJ, Vlieger AM, Prescott P, Lewith G. Manipulative therapies for infantile colic. Cochrane Database Syst Rev. 2012;12:4796.
19. Roberts DM, Ostapchuk M, O'Brien JG. Infantile colic. Am Fam Physician. 2004;70:735-40.
20. Physicians' Desk Reference. 50 Montvale, NJ: Medical Economics Company; 1996: 1501-1502.
21. Illingworth RS. Infantile colic revisited. Arch Dis Child. 1985;60:981-5.
22. Blumenthal I. The gripe water story. J Soc Med. 2000;93:172-4.
23. Illingworth RS. 'Three months colic.' Arch Dis Child. 1954;29:165-74.
24. Hizli S, Can D, Kilic I, Orun E, Tunc T, Ozkan H. Diagnosis and treatment approaches in infantile (ic): Results of a survey among Paediatrician in Turkey. Front Paediatr. 2021;9:286-8.
25. Bagherian B, Mehdipour-Rabori R, Nematollahi M. How do mothers take care of their infants with colic pain? A mixed method study. Ethiop J Health Sci. 2021;31:761-70.

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