ORIGINAL RESEARCH PAPER

Volume-8 | Issue-4 | April-2019 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SUSCEPTIBILITY TO MOTION SICKNESS AMONG THE GENERAL PUBLIC OF MANGALURU

Nursing

Mrs. Patsey Sera Castelino* Assistant Professor, Department of Paediatric Nursing, Laxmi Memorial College of Nursing , Mangaluru, Karnataka. India. *Corresponing Author

Jaison Jacob Assistant Professor, Department of Mental Health Nursing, Laxmi Memorial College of Nursing, Mangaluru, Karnataka. India.

ABSTRACT

Background: Motion sickness is a common ailment with travel in cars, trains, planes and boats. Other risk factors include: eating heavy meals before travelling, reading in car, airplane, space shuttle, heightened level of fear or anxiety, susceptibility to nausea or vomiting and sitting at back of vehicle.

Objectives: 1. To identify the factors aggravating motion sickness. 2. To identify the susceptibility for different rides/vehicles. 3. To identify the factors alleviating motion sickness.

Methods: A descriptive survey approach was adopted. Three hundred and forty nine samples were selected through purposive sampling technique. Data was collected using demographic proforma and motion sickness susceptibility questionnaire.

Results: Highest percentage (51%) of the samples reported being susceptible to motion sickness when travelling by car. Most (82%) of the samples tried to avoid the symptoms by sleeping and 2% resorted to having a light meal before travel.

KEYWORDS

Motion sickness; susceptibility; aggravating factors; alleviating measures

INTRODUCTION

Motion sickness is an unpleasant condition that occurs when persons are subjected to motion or the perception of motion. Depending on the cause, it can be referred to as seasickness, car sickness, simulation sickness or airsickness. It is surprisingly common, occurring in up to 72% of the population. It is absent in children under two, reaches a climax in 4-to-10-year-olds, and is rare in the elderly.

A study was conducted on prevalence and correlates of susceptibility to motion sickness among 535 individuals divided into eight groups. The prevalence of motion sickness among Tibetians and North East Indians (28%) was slightly higher than Northwest Indians (26%). Females (27.3%) were more susceptible than males (16.8%).among different groups, the highest incidence of susceptibility to motion sickness (SMS) was recorded in schizophrenic patients (30%), while the lowest in rowers (zero percent). Ears and eyes were the most potent receptors of provocative motion that causes sickness. The SMS was significantly higher in individuals who suffered from spatial disorientation (35.05%), migraine (26.31%), gastrointestinal disorders (26.82%) and those who were more sensitive to unpleasant odours (24.64%) and preferred sweet flavors (24.48%) than their counterparts.

Recognizing situations and motions that are likely to produce motion sickness is the most important factor to allow for prevention of symptoms. There are simple preventative measures which may reduce the likelihood of travel sickness. Focusing attention elsewhere, e.g. out of the window, on the horizon. Do not encourage reading or focusing on games while travelling. Avoid unnecessary head movements by using pillows or a headrest. If travelling by car, sit near the front of the vehicle, that is, middle rather than third row in a larger vehicle. If flying, sit over the aeroplane wing – the ride tends to be less bumpy. Recline as much as possible. Have a light snack before travelling – avoid heavy, greasy meals. Ensure ventilation either from open window or air conditioning – avoid overheating. Try to keep calm. If these fail, pharmacological therapies may be tried in children older than two years.

Self-treatment and prevention of motion sickness is frequently required in situations in which the medical provider is likely to be treating other patients for motion sickness.

MATERIAL AND METHODS

Design: Descriptive survey design

Setting: The study was conducted in urban and rural areas of Mangaluru

Population: General public in the age group of 13-60 years residing in Mangaluru.

Sample size: 349

Sampling technique: Purposive sampling

Instruments used:

- Demographic proforma
- Motion sickness susceptibility questionnaire short form(MSSQ)

Description of the instrument:

The first section contained 4 items for obtaining baseline information regarding their gender, frequency of travelling more than 50 kilometers by road in a year, presence of any health problems like migraine and vertigo and any of the family members of the participants suffering from motion sickness. A 5 point rating scale (Motion sickness susceptibility questionnaire short form) was used to assess the susceptibility to motion sickness. It assessed if the samples felt sick/nauseated while travelling in a car, bus, train, aeroplane, ship/boat, roller coaster, swing, merry go round or while dancing. A score of >9 indicated susceptibility to motion sickness. The tool reliability was found to be 0.7.

Data collection method

Prior to data collection, permission was obtained from the concerned authority for conducting the study. Subjects were selected according to the selection criteria. Average time taken by the participants to answer the tool was 10 minutes.

RESULTS

Majority (60.8%) of the participants were females. Highest percentage (38.2%) travelled by road for a distance of more than 50 kilometeres upto 10 times in a year. Least percentage (10%) suffered from migraine. Highest percentage (39.4%) had any of their family members suffering from motion sickness. A total of 349 samples were screened in which 150 samples had mild to severe motion sickness.

Table 1: Susceptibility to motion sickness among the general public

N=150

Ride/vehicle	Frequency	Percentage (%)
Car	110	31.52
Bus	178	51
Train	38	10.89
Aeroplane	24	6.88
Ship/boat	31	8.88
Dancing	13	3.73
Roller coaster/giant wheel	146	41.83
Swings	78	22.35
Merry-go-round	101	28.94

Data presented in table 1 shows that most (51%) of them travelling by bus were susceptible to motion sickness, 41.83% while swinging and 31.52% who travelled by car.

Table 2: Aggravating factors of motion sickness

Aggravating factor	Frequency	Percentage (%)
Air-condition	89	59.3
Winding curves	143	95.3
Facing opposite to the direction of travel	115	76.7
Day time	54	36
Topsy turvy curves	77	51.3
Seeing moving trees	45	30
Empty stomach	83	55.3
Full stomach	57	38
Watching others vomit	118	78.7
Migraine	11	7.33
Vertigo	7	4.67
Unpleasant odour	122	81.3
Sitting at the rear end of the vehicle	70	46.7
Reading while travelling	18	12
Unhygienic food	2	1.33
Tea/juice	2	1.33
Smoke from trucks	1	0.67
Night time	02	1.33
Window/air turbulence	1	0.67
Closed window	2	1.33

Data presented in table 2 shows that most (95.3%) of the samples experienced symptoms of motion sickness when they travelled through winding curves like ghats, 81.3% when they were exposed to any unpleasant odour and 78.7% when they watched others vomit. It also revealed that day time (36%) caused more motion sickness compared to night time (1.33%). And empty stomach caused (55.3%) compared to full stomach (38%), facing opposite direction (76.7%) caused more problems than sitting at the rear end of the vehicle (46.7%).

Table 3: Alleviating factors of motion sickness

Alleviating factor	Frequency	Percentage (%)
Antiemetics	82	54.67
Chewing gum	44	29.33
Chocolate	05	3.33
Diverting mind	119	79.33
Empty stomach	60	40
Sleeping	123	82
Full stomach	53	35.33
Lemon lozenge	51	34
Light food	03	2
Lemon or orange peel	101	67.33
Lime juice	02	1.33
Exposure to fresh air	01	0.67
Beetal nut	01	0.67
Pinching the nose	01	0.67
Lemon tea	01	0.67

Data presented in table 3 shows that 82% of the public alleviated the symptoms by sleeping, 79.33% by diverting their minds, 67.33% by smelling on a lemon or orange peel and 54.67% by taking antiemetics.

DISCUSSION:

A similar study was conducted to find the prevalence of motion sickness among 535 individuals eight different groups and they found it higher in individuals who suffered from spatial disorientation (35.05%), migraine (26.315), and unpleasant odour (24.64%) which was not having much significance in our study.

In another study people had more sickness when exposed to 3D compared to 2D movies whereas present study revealed that diverting mind was the best method to overcome motion sickness.

Recommendations

- A similar study can be conducted on a larger sample.
- A experimental studies can be conducted on herbal remedies to prevent motion sickness
- A repeated trial method to identify diversion as preventive method for motion sickness

CONCLUSION

Avoidance, motion acclimation and minimization of the motion stimuli are key strategies for avoiding motion sickness. Assure people that pharmacological treatment works best if started before the onset of symptoms. Finally, it is important to assure people that, although severe motion sickness may make patients wish they would die, it is extremely unlikely to kill them.

REFERENCE

1. Brainard, A. (2017). Motion sickness. Retrieved March 29, 2019, from https:// emedicine. medscape.com/article/2060606-overview
2. Davis, C.P. (2016). Motion Sickness. Retrieved March 29, 2019, from https://www. medicinenet. com/motion_sickness_sea_sickness_car_sickness/article.htm
3. Gordon C.R., Shupak A. (1999). Prevention and treatment of motion sickness in children. CNS Drugs, 12, Retrieved March 29, 2019, from https://link.springer.com/ article/ 10.2165/00023210-199912050-00004
4. Sharma, K., Aparna. (1997). Prevalence and correlates of susceptibility to motion sickness. Acta Genet Med Gemellol (Roma), 46, March 29, 2019, from https:// www. ncbi. nlm.nih.gov/pubmed/9492893
5. Solimini AG. (2013). Are there side effects to watching 3D movies? A prospective crossover observational study on visually induced motion sickness. PLOS one, 8, Retrieved March 29, 2019, from http://journals.plos.org/plosone/ article?id=10.1371/ journal. pone.0056160