



QUALITY OF LIFE MEASUREMENTS FOR PATIENTS WITH CHRONIC SUPPURATIVE OTITIS MEDIA IN A TERTIARY CARE CENTRE

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ABSTRACT

Background: Chronic suppurative otitis media (CSOM) is characterized by a persistent chronic otorrhoea from a perforated tympanic membrane and leads to many clinical presentations that include profuse mucopurulent, non-odorous discharge, deafness, tinnitus, depression, anxiety, and social withdrawal. Such clinical manifestations cause a multidimensional decline in Health-related quality of life HR-QOL including (familial, social, psychological, physical, and functional). **Methods:** In the current study, we administered a prevalidated tool and assessed the quality of life measurements for 54 patients with CSOM in a Tertiary Care Centre from Kashmir a northern region of India. **Results:** The majority of subjects (~65%) were in the age group of 18-30 years. Males (57%) and rural inhabitants showed a slight predominance (~56% and 59%). We found that individuals with CSOM present reduced HR-QOL measures. The majority of subjects reported that, ear symptoms were a cause of reduced quality of life in a sizable number of cases with CSOM. We also observed that CSOM affected the routine cleanliness schedules of the patients. Most of the subjects need therapeutic intervention for treating CSOM more than once in the last 6 months. **Conclusion:** Given the paucity of data in the field more replicative studies are warranted to have a better understanding of the reduced HR-QOL of patients with CSOM and its use as an outcome measure for therapeutic interventions.

KEYWORDS : Chronic suppurative otitis media; quality of life; ear; hearing loss; symptoms

INTRODUCTION

Chronic suppurative otitis media (CSOM), an inflammation of the mucoperiosteal layer of the middle ear cleft and mastoid cavity is usually characterized by tympanic membrane perforations, with chronic or persistent otorrhoea for 2 to 6 weeks¹. The Eustachian tube dysfunction is found in 70% of patients with CSOM, resulting in impaired pressure equilibration and aeration in the middle ear is impaired, leading to the classic symptoms of the disease². Patients suffering from CSOM can also present acquired hearing loss and lead to complications if left untreated³.

CSOM initiates as an inflammatory process following a viral/bacterial infection involving the mucosa of the nose, nasopharynx, middle ear mucosa, and Eustachian tubes. The edema caused by the inflammatory process obstructs the narrowest region of the Eustachian tube, which reduces ventilation due to the restricted anatomical space of the middle ear. This leads to a cascade of events causing an elevation in the negative pressure of the middle ear, exudate from the inflamed mucosa, and rise in mucosal secretions, which promotes bacterial and viral colonization in the middle ear.

The colonization of these microbes in the middle ear then leads to suppuration and eventually frank purulence in the middle ear space. A purulent discharge indicates the presence of infection and the cause of otorrhea may be deduced from the fluid's color^{4,5}.

As per the World Health Organization (WHO) report, globally, as a leading cause of hospital visits, there are 65–350 million persons suffering from CSOM^{6,7}. The associated symptoms affect the quality of life of individuals suffering from CSOM. For the clinical evaluation, Health-related quality of life (HRQOL) measurement is deemed as an essential health indicator and is widely also used in clinical practice for selecting the better course of treatment⁸. Therefore, in the current study, we assessed the quality of life measurements for patients with CSOM in a Tertiary Care Centre from Kashmir a northern Indian region of India.

MATERIAL AND METHODS

A prospective cross-sectional study was conducted in the Government Medical College, Srinagar, and Associated Hospitals; (Sri Maharaja Hari Singh Hospital (SMHS), Srinagar J&K) – a large tertiary care hospital in northern India. All the patients who presented with CSOM and were admitted between July 2019 to July 2021, directly in the Department of ENT, Head and Neck Surgery, SMHS or referred from other hospitals emergency were enrolled for the current study. Data was captured to collect the relevant information including demographic, clinical, and therapeutic modalities of each patient during the study. The CSOM diagnosis was carried out by an otorhinolaryngologist. All the cases with adhesive ear discharge and cholesteatoma were excluded from the study sample. The nature of hearing loss was noted as static or progressive. The degree of hearing loss ranged from normal hearing sensitivity to moderately severe hearing loss based on Clark's classification. If hearing loss was present, it was conductive type in all the participants of the study. A chronic ear survey was carried out by administering a standard revalidated questionnaire to the study population³. The responses were recorded and analyzed further. The study was reviewed and approved by the ethics committee of the Institute and the identity of the patients was kept confidential. The subjects who refused to participate were excluded from the study.

Statistical analysis:

The data was presented as numbers and percentages in the categorical variables. All the data were analysed by IBM SPSS software (SPSS Inc. version 25).

RESULTS

In the current study, we recruited 54 subjects presenting CSOM for one year. The majority of subjects (~65%) were in the age group of 18-30 years. Males showed a slight predominance over females (~56% vs 44%). More subjects were rural inhabitants and only 37% of the subject were illiterate. Nealy 54% of CSOM cases reported inactive type of mucosa. More subjects (48%) reported that they don't swim or shower due to CSOM and 63% of cases reported it necessary

to protect ears from entering the water. Among all the subjects recruited 22 subjects (~15%) reported CSOM interfering with their social activities with friends, family, or other groups. When the subjects were assessed for their symptom scale, 37% of subjects reported moderate hearing loss while 52% did not complain of any drainage from the ears. The pain in the ears was reported by only 25% of subjects with varying scale. Only 19% of subjects found the odor from their ears to be bothersome for themselves or others, however, the majority (67%) reporting odor, found it not affecting them at all. In the past 6 months, the frequency at which the affected ear had drained was reported 75% in aggregate. When the subjects were asked about the utilization of medical resources, 83% of subjects had to pay separate visits to their physicians specifically about their ear problems. Nearly 54% of subjects were prescribed one-to-two times antibiotics or ear drops in the last six months.

DISCUSSION

CSOM is characterized by a persistent otorrhoea from a perforated tympanic membrane is linked with an inflammation of the middle ear associated with the infection usually over a month¹⁰. Not less often, CSOM leads to many clinical presentations that include profuse mucopurulent, non-odorous discharge, deafness, tinnitus, depression, anxiety, and social withdrawal^{11, 12}. Such clinical manifestations cause a multidimensional decline in HR-QOL including (familial, social, psychological, physical, and functional)¹³. HR-QOL is an important outcome measure in studies evaluating therapeutic or surgical interventions¹⁴. This is essential as the prevalence of CSOM is reported to be very high (7.8%) in India.⁷

The development and/or availability of pre-validated disease-specific tools is pivotal for assessing the outcome of various therapeutic interventions¹⁵. However, the data on the availability and use of such tools is scarce. Moreover, several studies have been carried out using non-validated assessment tools¹⁶. While as only a few studies using validated instruments, have evaluated the impact of diminished hearing on HR-QOL, but have not been carried out systematically¹⁷. To the best of our knowledge, only a few studies have evaluated the effect whether QOL is affected in CSOM patients or not^{17,18}.

In the current study, we found more CSOM cases in the age group of 18-30 years, males and rural inhabitants. Our results agree with the earlier studies reporting male predominance in their cohorts^{17,19}. Similar to the findings from two earlier Indian studies, in the current study we also found that individuals with CSOM present reduced HR-QOL measures^{17,18}. In addition to hampering routine work, the hearing loss-induced communication gap is likely to affect social and societal interactions²⁰. Moreover, unlike an earlier study¹⁷ in the current study, we also observed that CSOM affected the routine cleanliness schedules of the patients. More number of patients were reluctant to shower due to CSOM. The phobia of developing severity in CSOM is the plausible explanation for such a reduction in the showering frequency due to CSOM. However, more studies are required to substantiate our findings.

In the current study, a sizable number of patients reported moderate hearing loss and moderate discharge from the ears, while as the majority did not report any pain associated with CSOM. Moreover, the results suggest that ear symptoms were a cause of reduced quality of life in the majority of cases with CSOM. The results are in line with the findings from two earlier Indian studies^{17,18}. Unlike odor, an ear-related symptom such as ear discharge is likely to cause social seclusion thereby impacting the quality of life¹¹. Moreover, persistent ear discharge and pain is likely to affect restrictions for school

attendance among children and work out among adults, thereby leading to reduced scholastic performance among children and affecting the economic health of adult CSOM patients. In the present study, similar to earlier findings, we also found that more number of subjects need therapeutic intervention for treating CSOM more than once in previous six months. Determining HR-QOL measurements to understand the difficulties of the patient's suffering from CSOM so that appropriate management can be provided. Moreover, ENT specialists and audiologists should follow a patient-centric strategy and use HRQOL as means for assessing the therapeutic outcome in their patients. Given the paucity of data in the field, more replicative studies are warranted to have a better understanding of the reduced HR-QOL of patients with CSOM and its use as an outcome measure for therapeutic interventions.

Table-1: Demographic Profile of study subjects presenting chronic suppurative otitis media

Variables	N= 54	%
Age (Years)		
18-30	35	64.8
31-45	14	25.9
46-60	5	9.3
Gender		
Male	30	55.6
Female	24	44.4
Residence		
Rural	32	59.3
Urban	22	40.7
Education Status		
Educated	34	63.0
Illiterate	20	37.0
Type of Complication		
Active Mucosal	25	46.3
Inactive Mucosal	29	53.7

Table-2: Activity restriction-based subscale responses provided by study subjects presenting chronic suppurative otitis media.

Questions	Response	Total	
		N	%
A1. Because of your ear problem, you don't swim or shower without protecting your ear	Definitely true	26	48.1
	True	10	18.5
	Don't know	0	0
	False	0	0
	Definitely false	18	33.3
A2. At the present time, how severe a limitation is a necessity to keep water out of your ears?	Very severe	34	63.0
	Severe	11	20.4
	Moderate	-	-
	Mild	1	1.9
	Very mild	-	-
A3. In the past 4 weeks, has your ear problem interfered with your social activities with friends, family, or groups?	None	8	14.8
	All of the time	22	40.7
	Most of the time	10	18.5
	A good bit of the time	10	18.5
	Some of the time	3	5.6
	A little of the time	2	3.7
	None	7	13.0

Table-3: Symptom subscale responses provided by study subjects presenting chronic suppurative otitis media.

Question	Response	Total	
		N	%
S1. Your hearing loss is:	Very severe	10	18.5
	Severe	3	5.6
	Moderate	20	37.0
	Mild	12	22.2
	Very mild	4	7.4
	None	5	9.3

S2. Drainage from your ear is:	Very severe	5	9.3
	Severe	5	9.3
	Moderate	8	14.8
	Mild	5	9.3
	Very mild	3	5.6
S3. Pain from your ear is:	None	28	51.9
	Very severe	4	7.4
	Severe	3	5.6
	Moderate	3	5.6
	Mild	7	13.0
S4. Odor from your ear is very bothersome to you and? Or others:	Very mild	2	3.7
	None	35	64.8
	Definitely true	10	18.5
	True	6	11.1
	Don't know	-	-
S5. The hearing loss in your affected ear bothers you:	False	2	3.7
	Definitely false	36	66.7
	All of the time	18	33.3
	Most of the time	9	16.7
	A good bit of the time	13	24.1
	Some of the time	6	11.1
	A little of the time	2	3.7
S6. In the past 6 months, please estimate the frequency that your affected ear has drained:	None	6	11.1
	Constantly	4	7.4
	>5 times, but not constantly	13	24.1
	3-4 times	4	7.4
	1-2 times	18	33.3
S7. The odor from your affected ear bothers you and/or others:	Not at all	15	27.8
	All of the time	5	9.3
	Most of the time	4	7.4
	A good bit of the time	6	11.1
	Some of the time	-	-
	A little of the time	36	5.6
	None	36	66.7

Table-4: Medical resource utilization subscale responses provided by study subjects presenting chronic suppurative otitis media.

Questions	Response	Total	
		N	%
M1. In the past 6 months, how many separate times have you visited your physician, specifically about your ear problem?	>6 times	9	16.7
	>5 times, but not constantly	7	13.0
	3-4 times	12	22.2
	1-2 times	19	35.2
	Not at all	7	13.0
M2. In the past 6 months, how many separate times have you used oral antibiotics to treat your ear infection?	>6 times	1	1.9
	>5 times, but not constantly	1	1.9
	3-4 times	8	14.8
	1-2 times	29	53.7
	Not at all	15	27.8
M3. In the past 6 months, how many separate times have ear drops been necessary to treat your ear condition?	>6 times		
	>5 times, but not constantly	4	7.4
	3-4 times	10	18.5
	1-2 times	22	40.7
	Not at all	18	33.3

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