Abstract

Poor quality of documentation in Medical Records by medical officers has been identified as a key issue confined not only to Sri Lanka, but has been identified as a global phenomenon. Assessing the quality of medical records could be considered as a relatively new research area for Sri Lanka and other countries of the Asian region. The few studies conducted in Sri Lanka, together with the information released by the Department of Health Services points to poor quality of documentation in Medical Records among medical officers.

Quality of documentation in Medical Records depends on the rigorousness in making the entries in the Medical Record available, legible, adequate and accountable. The quality of documentation in Medical Records could be unsatisfactory due to several reasons. This has been attributed to reasons such as poor knowledge, poor attitudes and lack of commitment of those who document the information, regarding the need to make all the entries available, legible and adequate and to be accountable for documentation.

The objectives of this research study were to develop and validate an instrument to assess quality of documentation in Medical Records, to assess the existing quality of documentation in Medical Records by medical officers and their knowledge and attitudes towards Medical Record documentation and to design, implement and assess the effectiveness of an educational intervention to improve the quality of documentation in Medical Records in the Sri Lankan setting.

The study comprised three components. The instrument to assess the quality of documentation in Medical Record, Physician Documentation Quality assessment Instrument (PDQI) was developed and validated in the first component. The validity and reliability of the Physician Documentation Quality assessment Instrument was established. A cross-sectional descriptive study to assess the quality of documentation in Medical Records using the validated instrument in regards to documentation qualities availability, legibility, adequacy and accountability was also a part of the first component. The second component was a cross-sectional descriptive study to describe the knowledge and attitudes of the medical officers on Medical Record documentation. A quantitative approach was employed to determine the knowledge of medical officers on Medical

Record documentation while a qualitative inquiry was carried out to obtain an insight into the views of medical officers on underlying reasons for the poor quality of documentation in Medical Records. Designing and implementing an educational intervention to improve the quality of documentation in Medical Records by medical officers and an experimental study to assess the effectiveness of the intervention comprised the third component.

The cross-sectional survey to assess the quality of documentation in Medical Records was conducted using a sample of 1100 Medical Records which were selected employing a systematic random sampling method in selected government hospitals of Kalutara district, using the validated Physician Documentation Quality assessment Instrument.

The quantitative study to determine the knowledge on Medical Record documentation was carried out among 276 medical officers using a self-administered questionnaire recording a response rate of 97.8%. The qualitative study to obtain an insight into the underlying reasons for the poor quality of documentation were sought using Focus Group Discussions among medical officers working in the selected hospitals.

An educational intervention package on proper documentation in Medical Records among medical officers were developed as a part of the study, with the guidance of experts in the field of Medical Records and Health Information Management. The package included the curriculum, lesson plans and PowerPoint slide presentations. A guidebook on proper Medical Record documentation practices among medical officers was also developed to be used as supplementary material in the educational intervention.

An experimental study consisting of a control group and pre-post design was conducted to assess the effectiveness. Proportion of medical officers with 'good' level of knowledge on Medical Record documentation and the proportion of Medical Records with 'good' quality served as the outcome indicators. Medical Record quality assessment of the component I and the cross sectional survey on knowledge on Medical Record documentation among medical officers assessed in Component II served as the pre-intervention assessment in the intervention group. The post-intervention assessment of the proportion of medical officers with 'good' level of knowledge on Medical Record documentation was assessed twelve weeks after the intervention. The study was designed to assess two post-intervention assessments of the indicator, the proportion of Medical

Records with 'good' quality and they were following twelve and eighteen weeks after the intervention.

The cross sectional survey carried out to determine the prevalence of Medical Records having 'good' overall quality of documentation of all entries in Kalutara district showed that it was only 6.1% (95% CI=4.7-7.5%). For the quality aspect 'availability' the prevalence of Medical Records categorized as 'good' for all entries in the Medical Record was only 6.3% (95% CI=4.9-7.8%) while for 'legibility' it was only 1% (95% CI=0.5-1.7%), for 'adequacy' 7.3% (95% CI=5.8-9.0%) and for quality aspect 'accountability' a paltry 0.2% (95% CI=0.0-0.5%). In analyzing the results it was found that quality of documentation in Medical Records by medical officers of the Out Patients Department, ward medical officers on initial contact with the patient as well as ward medical officers on separation of the patient were all poor. It was revealed that the quality aspect 'availability' of the administratively and statistically most important entry documented by medical officers, the principal/final diagnosis was high (84.5%). However, the 'legibility' (56.6%) and various aspects of 'adequacy' of the principal/final diagnoses were found to be low. Furthermore, in analysing the results of individual entries documented by medical officers it was revealed that the quality of documentation of most of these entries were poor. The cross sectional study to determine the prevalence of medical officers having a 'good' overall knowledge on Medical Record documentation was found to be only 15.6% (95% CI=11.3-20.5%). This study assessed knowledge on Medical Record documentation among medical officers under ten domains also and the results of all except one of them were poor.

The intervention study carried out to determine the effectiveness of the educational intervention showed that the overall quality of documentation in Medical Records was 'good' in only 6.1% Medical Records that were analyzed in Kalutara district (intervention district) while the corresponding proportion in Matara district (control district) was 7.1% and were not statistically significant at the pre-assessment stage ($p>0.05$). The levels of quality of documentation of different aspects of documentation, namely availability, legibility, adequacy and accountability of the intervention and control groups were also similar and were not statistically significant ($p>0.05$) at the pre-assessment stage and the two groups were similar and comparable.

Twelve weeks after the education intervention, the 'good' overall quality of documentation in Medical Records has significantly increased to 69.7% at the first post-assessment from 6.1% at the pre-assessment stage in Kalutara district ($p<0.001$) while in Matara district the increase was marginal from 7.1% (pre-assessment) to 7.5% (first post-assessment) which was not statistically significant ($p>0.05$). In comparing different aspects of quality, 6.3% Medical Records were having 'good' quality with regards to 'availability' in the pre-assessment and this proportion has significantly increased to 65.1% in the first post-assessment in Kalutara district ($p<0.001$) while for Matara district it was an insignificant change from 5.2% to 6.2% ($p>0.05$). Medical Records having 'good' quality with regards to 'legibility' significantly increased from 1.0% to 13.7% ($p<0.001$), 'adequacy' from 7.3% to 72.8% ($p<0.001$) and 'accountability' from 0.2% to 4.5% ($p<0.001$) in the first post-assessment in Kalutara district while for Matara district the changes were non-significant for 'legibility' 1.6% to 2.2% ($p>0.05$), for 'adequacy' 8.2% to 11.0% ($p>0.05$) and for 'accountability' 0.2% to 0.1% ($p>0.05$). In comparing the results of individual entries documented by medical officers in the pre and first post-assessment Medical Record samples of Kalutara district it was revealed that they have improved greatly following the education intervention. It was observed that no such increase was detected in Medical Record samples analyzed from Matara district. In comparing overall knowledge on Medical Record documentation of medical officers in Kalutara (15.6%) and Matara (18.9%) districts at pre-assessment stage both groups were similar and comparable ($p>0.05$). The overall knowledge on Medical Record documentation among medical officers of the Kalutara district have significantly increased from 15.6% to 78.0% ($p>0.001$) in the post-assessment while in Matara district a non-significant increase from 18.9% to 24.0% ($p>0.05$) was observed. In comparing these results it is inferred that the education intervention carried out in Kalutara district is effective.

A second post-assessment to assess the quality of documentation in Medical Records by medical officers was carried out six weeks following the first post-assessment to determine the sustainability of the education intervention. On analysing the results of Kalutara district the 'overall' quality of documentation in Medical Records for first post-assessment was 'good' in 69.7% and for the second post-assessment the corresponding figure was 68.3%. The marginal decrease observed between first and second post-assessments were not statistically significant ($p>0.05$). In comparing results of first and second post-assessments for the quality aspect 'availability' the figures were 65.1% and

63.7% respectively and the observed marginal decrease was not statistically significant ($p>0.05$). Furthermore, in comparing the results of first and second post-assessments for other aspects of quality of documentation in Medical Records 'legibility' (13.7% to 12.8%), 'adequacy' (72.7% to 71.3%) and 'accountability' (4.5% to 4.3%), the decreases were not statistically significant ($p>0.05$). In comparing the results of individual entries documented by medical officers in the first and second post-assessment Medical Record samples of Kalutara district it was observed that changes between them were marginal. When these facts were taken into consideration it is inferred that that the education intervention conducted for medical officers on proper documentation in Medical Records is sustainable over time.

The study concluded that the Physician Documentation Quality assessment Instrument was found to be a valid and a reliable instrument to assess the quality of documentation in Medical Records in the Sri Lankan setting. The overall quality of documentation in Medical Records and all aspects of documentation quality and knowledge on Medical Record documentation among medical officers were, mostly poor in selected hospitals of Kalutara district prior to the educational intervention. The educational intervention on proper documentation in Medical Records were found to be effective and sustainable over time.

It is recommended that educational intervention designed in the present study to be implemented as an in-service training in health institutions of other districts of the country and Physician Documentation Quality assessment Instrument to be used to assess, to evaluate the trainings and in periodic audits of quality of documentation in Medical Records to identify the lapses in quality of documentation. The study also recommends a revision of the format of Medical Record forms to be more user-friendly and brought to a single standard size.

Key words: Medical Records, Medical Record documentation, medical officers, quality of documentation in Medical Records, knowledge on Medical Record documentation