



Original/Otros

Food intake reported *versus* nursing records: is there agreement in surgical patients?

Fernanda Braga Azambuja¹, Mariur Gomes Beghetto², Michelli Cristina Silva de Assis³ and Elza Daniel de Mello⁴

¹Escola de Enfermagem, Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, RS. ²Professor at Nurse School of the Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, RS. ³Nurse of the Nutritional Support Team of the Hospital de Clínicas de Porto Alegre (HCPA), Porto Alegre, RS. ⁴Professor at the Universidade Federal do Rio Grande do Sul and Gastro and Hepatology Unit of the Pediatrics Department of the Hospital de Clínicas de Porto Alegre, Brazil.

Abstract

Objectives: to evaluate the agreement between oral feeding by patients and chart records of this acceptance.

Method: Besides the food intake surveys of surgical patients, the nursing records of nutrition were evaluated. It was considered *good oral feeding*: intake $\geq 75\%$ of total calories prescribed at the day; *medium acceptance*: 50 to 74.9%; *low acceptance*: $< 50\%$ and NPO (nothing per oral). The Kappa coefficient was adopted to assess agreement.

Results: there were similar answers between patient and nursing records in 91.3% of NPO situations, 87.1% for *good oral feeding*, 17.8% for medium acceptance and 16.5% for *low acceptance* (Kappa = 0.45).

Conclusion: agreement between patient's reports and nursing records was moderate to low. A higher proportion of similar answers were observed when the patients related *good oral feeding* or NPO.

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Key words: *Food Intake. Nursing Records. Hospitalization.*

¿ACEPTACIÓN DE LA DIETA ORAL REPORTADA POR PACIENTES Y LOS REGISTROS DE ENFERMERAS: EXISTE ACUERDO EN PACIENTES QUIRÚRGICOS?

Resumen

Objetivo: evaluar la concordancia entre la aceptación de la dieta oral reportada por los pacientes y los registros en prontuario de esta aceptación.

Método: fueron evaluados el consumo de alimentos y los registros de la ingestión en prontuario por las enfermeras. Se consideró "buena aceptación": la ingesta de $\geq 75\%$ de las calorías totales prescritas por día, "regular aceptación": de 50 a 74,9%; "baja aceptación": $< 50\%$ y NPO (nada por la boca). Para la evaluación de la concordancia fue utilizado el coeficiente Kappa.

Resultados: la proporción de respuestas coincidentes entre el relato del paciente y el registro de las enfermeras fue 91,3% en casos de NPO, 87,1% para "buena aceptación", 17,8% para "regular aceptación" y 16,5% para "baja aceptación" (Kappa = 0,45).

Conclusión: la concordancia entre los relatos de los pacientes y los registros de las enfermeras fue de moderada a débil. Hubo una mayor proporción de respuestas coincidentes cuando los pacientes informaron "buena aceptación" o cuando había NPO prescrito.

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Palabras clave: *Ingestión de Alimentos. Registros de Enfermería. Hospitalización.*

Correspondence: Fernanda Braga Azambuja.
Universidade Federal do Rio Grande do Sul.
Escola de Enfermagem. Rua São Manoel, nº 963.
Bairro Rio Branco, Porto Alegre/RS - Brasil - CEP: 90620-110
E-mail: fernandabazambuja@gmail.com

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Introduction

About the high prevalence of malnutrition¹ and its negative impact on non-systematic hospital outcomes^{2,3}, there is an impression that food acceptance records through oral feeding made on records by nurses, when existing, are restricted to summarize the acceptance by oral feeding with an adjective (example: “good oral feeding”). It appears to be more related to the ability to chew or swallow than the quantity of ingested food. Besides that, in those records where there is any reference to low acceptance of food by oral health, not always seems to have a nursing prescription of any specific care to minimize this condition. Although malnutrition is configured as the highest prevalent comorbidity inside hospitals, it is not observed that diagnoses and related nursing care follow the same proportion. The nurse, as a health team member, should acquire knowledge to act in the prevention as well as in the recovery of compromised nutrition states and also in the recognition of signals requiring nursing interventions⁴.

The increment in the assessment of the records' quality is observed with interest as theme of investigations. A study at a university hospital in São Paulo State identified diagnose registers, prescriptions and nursing evolution happened in 41%, 75.2% and 45.8% respectively, and only 11.3% were complete records⁵. Specifically in surgical patients, recent studies about nursing records has been providing important subsidies to the care planning⁶. A study with surgical patients at a school hospital in Paraná State found 20.8% of nursing prescriptions were incomplete⁷.

Although the magnitude and relevance of this problem, nursing actions involved in the surgical patient care, not always seem to be sufficiently directed to change this situation. For this reason, the need to identify how much nurses from a university hospital who have resources to adopt an assistance system and where the prevalence of malnutrition in adults is higher than 50%^{1,8} identify nutritional changes in its assistance routine, register this fact and take notes, is justified. Thus, the present study aimed to evaluate the agreement between food acceptance by food intake referred by patients and the registrations in nursing records.

Method

The study project was approved regarding its ethical and methodological aspects by the Ethics in Research Committee of the institution under the protocol nº 11-0307.

Between August 2011 and October 2012, patients under elective surgeries, with exception of cardiovascular specialties and neurosurgery and those with no conditions to answer the food intake surveys, that had enteral or parenteral nutrition in the admission or those consuming food not provided by the hospital, were considered eligible.

One nurse did the total food intake surveys (records from 24 hours), following a previously applied protocol⁹. Participants were asked about the quantity of consumed food in each meal (breakfast, lunch, afternoon snack, dinner, night snack), in the last 24 hours and the information was registered in a specific instrument. She also revised the records to identify if the nursing records contained information about food intake. Any suggestive information present in the evolution records referred to acceptance of food by oral feeding was considered. Information was considered similar when those provided by patients and those from nursing evolution records attended the described criteria in figure 1.

Analyses were run with the *PASW Statistics* program, version 20.0. Descriptive analysis respected the characteristics and distribution of variables.

The total estimate considered the results from a pilot study conducted by the authors, proceeding 174 intake controls in 27 patients in total. From those 8.5% were identified as inadequate intake from nursing registries in the records and 44.7% with adequate intake. Thus, it was estimated to evaluate 56 eating surveys, accepting a 95% confidence interval of precision for the differences within proportions, for a 5% significance level, power of 80%, ratio of 1 patient exposed to adequate intake for each patient exposed to an inadequate intake. Considering the high number of available observations, from a patient's cohort follow-up, it was opted to extend the sample for the study period. For the studied sample (3259 food intake inquiries), for a

Eating survey (patient report)	Nursing registries (in the record)
Good acceptance by oral via: $\geq 75\%$ of total calories prescribed per day.	Accepting well through oral via; good acceptance of OV*; eating well; GOF†
Medium acceptance by oral via: 50 to 74,9% of total prescribed calories.	Partially accepting; MAOV‡, moderate acceptance; regular diet acceptance.
Low acceptance by oral via: $< 50\%$ of total prescribed calories.	LAOV§; diminished ingestion; did not accept well the diet; bad acceptance.
Patient informed have not ingested food in the past 24 hours due to medical determination.	NPO‡: considered adequate if this information is in the nursing evolution.

*oral via; †good oral feeding; ‡medium acceptance oral via; §low acceptance oral via; †nothing per oral.

Fig. 1.—Coincidence criteria between patient report and nursing record.

5% significance level, power of 80% and accepting a 95% confidence interval, it was found that a sample of 1123 observation is capable to determine if a Kappa coefficient of 0.4 is statistically different from a Kappa coefficient of 0.5%.

Results

From total hospitalized patients for elective surgeries during the study period (n=1047), 595 attended to eligibility criteria. Each patient presented a 5 (3-8) days eating survey median (24 hours of eating records), generating 3259 patients/day of follow-up (addition of the days when each patient was evaluated regarding the eating survey and the nursing registries in their records later assessed for agreement). In only 1719 patients/day there was some type of register about oral feeding acceptance in the nursing evolution, where the patient's acceptance was categorized by nurses as: "good oral feeding" (39.8%), "medium acceptance" (16.0%), "low acceptance" (21.5%) and "NPO" (22.7%).

The highest proportion of coincident information between patients and nurses was observed when the oral feeding acceptance was "good" or there was "NPO"; and lower proportions of coincidences when it was "medium" and "low". When assessing the agreement between the information related by the patients (eating surveys) and the nurses records (evolution) it was identified moderate to low agreement (Kappa=0.448).

They were first line in figure 2 shows 32.2% of nursing registries tended to overestimate what the patients were actually ingesting, once they reported medium or low acceptance, or they were in NPO. Also, when nurses classified intake as medium (2nd line), in about 40% of the cases there was worse intake reported by patients. On the other hand, when nurses classified oral feeding acceptance as "low" (3rd line), 34.2% of surveys pointed to better acceptance by the patients. Still, when there was NPO registered by nurses (4th line), about 40% of registries demonstrated the patients accepting the diet, even when in little quantities.

When the agreement was stratified by the day of observation, low to moderate agreement was identified with a Kappa coefficient varying between 0.276 (on the 5th day) and 0.537 (on the 2nd day). There was also lower proportion of coincidence between the patient's and nurses' information in the intermediate categories of food acceptance by oral feeding (medium and low acceptance).

Discussion

The present study identified moderate to low agreement between the patient's report of food quantity consumed during hospitalized days and the registries done by nurses in the patient's charts.

Big dimension studies as the nutritionDay have been producing available information about nutritional care, including food intake⁹. In one of its editions, 16,290 hospitalized adults were assessed and it was found more than half of patients not eating their whole meal offered by the hospital¹⁰. Only 40.4% from those patients reported "good oral feeding" ($\geq 75\%$ of prescribed calories), while other studies showed 34 to 58% patients eating their whole meal¹⁰⁻¹².

Regarding the food acceptance registry done by nurses, those professionals tend to register a higher acceptance than the patient actually ingested. A direct observational study compared the acceptance registries done by nurses with photography methods, demonstrating over estimation in nursing registries for food intake in 22% and the team did not identified 53% of patients who ingested less than 75% of most part of meals¹³.

Regarding the agreement, in general it is observed no modification between agreement percentage proportions in 10 days. In the extremes (*good oral feeding* and *NPO*) high levels of agreement are perceived between food intake reported by patients and registered by nurses, while in the intermediate levels (*low* and *medium acceptance*) there were low levels of agreement. Exactly in inadequate food intake situations, that is, in those requiring actions directed to the problem,

Nursing (evolution)	Patient's information (eating survey)				TOTAL
	GOF*	MAOV†	LAOV‡	NPO§	
GOF*	596	159	108	16	879
MAOV†	34	49	51	4	138
LAOV‡	22	17	61	14	114
NPO§	32	50	149	357	588
TOTAL	684	275	369	391	1719

*good oral feeding; †medium acceptance oral via; ‡low acceptance oral via; §nothing per oral.

Fig. 2.—Coincident answers between eating surveys and evolution recorded by nurses.

the nurse does not register the exact information of ingested food. Regarding the high number of patients with insufficient food intake, there is a need to change attitude of clinical practice professionals. A study published in 2009 showed more than half of patients who ingested less than 25% of their meals did not receive additional nutrition support and only 25% of patients who did not eat at lunch were receiving it¹⁰.

In a scenario with high prevalence of patients presenting nutritional deficits who does not ingest all offered food, the nutritional care should be understood as a fundamental part of treatment and, being prioritized in caring plan of nurses, as it can positively contribute for the health statuses of hospitalized patients. A study tested the impact of a nutritional protocol applied by a nurse combined with a nutrition support team, in which improved the nutrition provided in a pediatric ICU¹⁴.

Only the participation of nurses in the multi-professional nutritional therapy team as the RDC n°63/2000¹⁵ does not guarantee the implementation of nutritional care. For this, this professional should change practices and start to give value and register in a systematic way information related to nutrition, especially food acceptance. It seems to be mandatory a better formation of future nurses and nursing technicians to monitor nutritional demands and to introduce early care.

As well as in other scenarios, the food intake control of patients is not an easy task to be done¹⁶. In clinical practice, the registry is, many times, done from a unique meal observation and therefore, it does not represent total food intake. In this study, the aim was to evaluate the quantity of ingested food in all meals. For this objective, a diet record was used as assessment method in 24 hours. It has many positive aspects: quick application, it does not change the food intake; it can be used in different age groups and in alphabets, low cost. But within the main disadvantages, it is the dependence of memories from the interviewed and the capacity of the interviewer to establish a good communication and avoid answers induction. The study conducted a food inquiry in days when the patient remembered their food of 24 hours, not necessarily in consecutive days of hospitalization due to the dynamics of a surgical hospitalization: conduction of exams, frequent situations of NPO, and surgery cancellations, within others, which could have minimized the memory bias.

Also, to establish a comparison between the impression of two different individuals about the quantity of food ingested per day, when summarized by adjectives (“good”, “medium”, “low”) can generate interpreting errors related to personal values and comparison parameters of each involved part. The adoption of a category criteria for the food acceptance in a quantitative way, as the nutritionDay, and the standardization of quartiles to establish the comparison of those portions to the adjectives (“good”, “medium”, “low”) emitted by nurses were trials to reduce potential biases related to subjectivity.

As previously demonstrated by Tavares, Matos and Amaral¹⁷, the present study showed low intake of patients. Despite that, the early identification of the reduced intake allows the adoption of strategies to minimize the damages of hospital malnutrition¹⁸. The study conducted by us found the small endeavor of nurses on recording the food intake of patients, which should not be an isolated practice in our reality. Indeed, it serves as a warning to all health team in order to develop better observation, control and record of food intake.

Conclusion

The agreement between what the patient refers to in relation to his intake and the registries done by nurses is moderate to low. Higher discrepancies are seen when patients refers to “medium” or “low”. The results did not document the elevated prevalence of malnutrition and the adequate acceptance of food by oral feeding in adults hospitalized due to surgeries.

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